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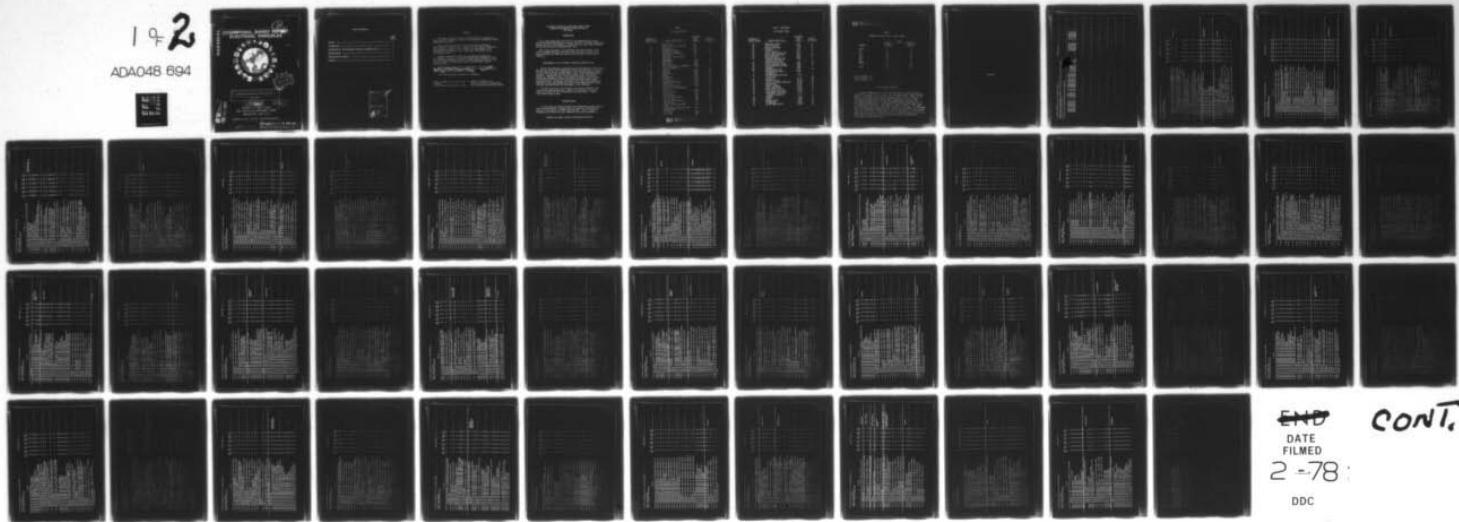
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OCCUPATIONAL SURVEY REPORT  
ELECTRONIC PRINCIPLES



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AFSC 40451

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## PREFACE

This report presents a summary of the results of a detailed Air Force Electronic Principles Survey of the Aerospace Photographic Systems Specialist, AFSC 40451.

The Electronic Principles Inventory (EPI) was developed by Major Thomas J. O'Connor and Mr. Hendrick W. Ruck and the survey data were analyzed by Captain Elena J. Weber. All are members of the Occupational Survey Branch, USAF Occupational Measurement Center, Lackland AFB, Texas.

Computer programs for analyzing the data were designed by Dr. Raymond E. Christal, Occupational and Manpower Research Division, Air Force Human Resources Laboratory (AFHRL), and were written by the Project Analysis and Programming Branch, Computational Sciences Division, AFHRL.

Distribution of this report is made upon request to the USAF Occupational Measurement Center attention of [redacted] Chief, Occupational Survey Branch (OMY), Lackland AFB, Texas 782 [redacted]

This report has been reviewed and is approved.

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ELECTRONIC PRINCIPLES OCCUPATIONAL SURVEY REPORT  
AEROSPACE PHOTOGRAPHIC SYSTEMS SPECIALIST  
AFSC 40451

INTRODUCTION

This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Aerospace Photographic Systems Specialist (AFSC 40451). The data for this report were collected during the period July through September 1977.

This report describes: (1) development and administration of the survey instrument; and (2) electronic principles used by DAFSC 5-skill level personnel both CONUS and overseas and assigned to selected major commands.

DEVELOPMENT OF THE ELECTRONIC PRINCIPLES INVENTORY (EPI)

The EPI was developed by personnel from the Occupational Survey Branch who were well qualified in theoretical physics and electronics, as well as in task analysis and survey development. Over 300 maintenance personnel from SAC, TAC, ADC, MAC, and AFCS participated in the development of the inventory. Representing the five ATC training centers, electronics experts who averaged 12 years of maintenance experience and four years of electronic principles instruction experience spent several weeks refining the EPI. In addition, personnel at the Electrical Engineering Department of the USAF Academy and the Air Force Human Resources Laboratory were consulted during the development of the inventory.

The final version of the EPI used in this survey contained 1,257 items in 62 subject matter areas covering all electronic principles training given at the five ATC technical training centers. Table 1 lists the 62 subject areas.

ADMINISTRATION

The Electronic Principles Inventory was administered by mail to AFSC 40451 airmen worldwide. Responses from 69 individuals represented 50 percent of the total of all AFSC 40451 personnel. Table 2 shows the percentage distribution by major command of the survey incumbents.

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TABLE 1  
EPI SUBJECT AREAS

SEQUENCE OF SUBJECT AREAS	SUBJECT AREA TITLE	BEGINNING ITEM NUMBER	GPSUM PAGE NUMBER
1	MATHEMATICS	A1	2
2	DIRECT CURRENT AND VOLTAGE	A15	2
3	RESISTANCE	A24	2
4	MULTIMETER USES	B52	3
5	ALTERNATING CURRENT	B61	4
6	INDUCTORS AND INDUCTIVE REACTANCE	B67	4
7	CAPACITORS AND CAPACITIVE REACTANCE	C92	5
8	TRANSFORMERS	C128	6
9	MAGNETISM	C171	7
10	RCL CIRCUITS	D185	8
11	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)	D229	10
12	FILTERS	D239	10
13	COUPLING	E261	11
14	SOLDERING	E273	11
15	RELAYS	E295	12
16	MICROPHONES	F314	12
17	SPEAKERS	F327	13
18	OSCILLOSCOPES	F342	13
19	SEMICONDUCTOR DIODES	G354	13
20	TRANSISTORS	G404	15
21	TRANSISTOR AMPLIFIERS	G428	16
22	SOLID-STATE SPECIAL PURPOSE DEVICES	H477	19
23	POWER SUPPLIES	H483	19
24	OSCILLATORS	H512	19
25	MULTIVIBRATORS	I539	20
26	LIMITERS AND CLAMPERS	I555	21
27	ELECTRON TUBES	I565	21
28	ELECTRON TUBE AMPLIFIERS AND CIRCUITS	J609	22
29	SPECIAL PURPOSE ELECTRON TUBES	J616	23
30	HETERODYNING, MODULATION, AND DEMODULATION	J632	23
31	AM SYSTEMS	K638	23
32	FM SYSTEMS	K666	24

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TABLE 1 (CONTINUED)

## EPI SUBJECT AREAS

SEQUENCE OF SUBJECT AREAS	SUBJECT AREA TITLE	BEGINNING ITEM NUMBER	GPSUM PAGE NUMBER
33	NUMBERING SYSTEMS	K685	25
34	LOGIC FUNCTIONS	L695	25
35	BOOLEAN EQUATIONS	L708	26
36	COUNTERS	L733	27
37	TIMING CIRCUITS	M757	27
38	USE OF SIGNAL GENERATORS	M769	28
39	MOTORS AND GENERATORS	M779	28
40	METER MOVEMENTS	N808	29
41	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS	N818	29
42	WAVESHAPING CIRCUITS	N834	30
43	SINGLE SIDEBAND SYSTEMS	0845	30
44	PULSE MODULATION SYSTEMS	0875	31
45	ANTENNAS	0914	32
46	TRANSMISSION LINES	P953	34
47	WAVEGUIDES AND CAVITY RESONATORS	P984	35
48	MICROWAVE AMPLIFIERS AND OSCILLATORS	P1034	37
49	REGISTERS	Q1110	39
50	STORAGE DEVICES	Q1117	40
51	DIGITAL TO ANALOG CONVERTERS	Q1126	40
52	PHANTASTRONS	Q1140	41
53	SCHMITT TRIGGERS	R1141	41
54	CABLE FABRICATION	R1144	41
55	INPUT/OUTPUT DEVICES	S1146	41
56	PHOTO SENSITIVE DEVICES	S1149	41
57	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)	S1150	41
58	INFRARED	T1159	41
59	LASERS	T1186	42
60	DISPLAY TUBES	T1220	43
61	PROGRAMMING	U1234	43
62	DB AND POWER RATIOS	U1255	44

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TABLE 2  
COMMAND REPRESENTATION OF SURVEY SAMPLE

COMMAND	PERCENT ASSIGNED	40451 PERCENT OF SAMPLE
ADCOM	7	4
ATC	3	9
SAC	22	17
AFSC	2	1
TAC	42	51
USAFE	14	9
MAC	2	1
PACAF	7	4
OTHER	1	4
TOTAL	100	100

Total Assigned - 137

Total Sampled - 69

Percent Sampled - 50

#### PRESENTATION OF RESULTS

Personnel responded "yes" or "no" to the 1,257 electronic principles questions as related to their present job. A Group Summary (GPSUM) computer printout is provided in the Appendix portion of this report. Page 1 of the GPSUM lists the six selected groups identified for this report. Pages 2-44 show the percentage of the incumbents responding to the EPI items. The computer program results display the percent members answering "yes" to the subject area questions. The reader can locate a specific subject area by referring to the Appendix page number as listed in Table 1. For example, the Transformers area results are given on page 6 of the GPSUM. The percentage of survey respondents indicating use of specific electronic principles ranged from high in areas such as Resistance (pp. 2-3) and Relays (p. 12) to low in areas such as Transistor Amplifiers (pp. 16-19) and Electron Tubes (pp. 21-22). Additional AFSC 404X1 data can be obtained upon request to the Chief, Occupational Survey Branch (OMY).

APPENDIX

PCT MBR'S RESPONDING 'YES' BY SELECTED GRPS  
TABULATION OF ELECTRONIC PRINCIPLES UTILIZATION DATA FOR SELECTED GROUPS  
IN THE 404X1 CAREER FIELD.

GPSUM2 PAGE 1

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY = SPC026	ALL AIRMEN DAFSC 40451	CONTAINING 69 MEMBERS.
GROUP IDENTITY = SPC027	ALL AIRMEN DAFSC 40451 STATIONED IN CONUS	CONTAINING 58 MEMBERS.
GROUP IDENTITY = SPC028	ALL AIRMEN DAFSC 40451 STATIONED OVERSEAS	CONTAINING 11 MEMBERS.
GROUP IDENTITY = SPC029	ALL AIRMEN DAFSC 40451 ASSIGNED TO SAC	CONTAINING 12 MEMBERS.
GROUP IDENTITY = SPC030	ALL AIRMEN DAFSC 40451 ASSIGNED TO TAC	CONTAINING 35 MEMBERS.
GROUP IDENTITY = SPC031	ALL AIRMEN DAFSC 40451 ASSIGNED TO USAFE	CONTAINING 6 MEMBERS.

	0Y-TSK	SPC	SPC	SPC	SPC	SPC
A 1 A1-01 IN YOUR PRESENT JOB, DO YOU USE INSTRUMENTS, SUCH AS METERS OR OSCILLOSCOPES, IN WHICH IT IS NECESSARY TO AMPLIFY OR ATTENUATE VOLTAGE, RESISTANCE, ETC., BY POWERS OF 10.	32	31	36	25	31	0
A 2 A1-02 DO YOU USE PUBLICATIONS, SUCH AS A TECHNICAL ORDERS OR MAINTENANCE MANUALS, IN WHICH IT IS NECESSARY FOR YOU TO MULTIPLY OR DIVIDE BY A POWER OF 10 BEFORE YOU CAN APPLY THE INFORMATION FROM THE PUBLICATION IN A USEFUL WAY ON THE JOB?	10	7	27	17	6	0
A 3 A1-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.	20	17	36	17	11	0
A 4 A1-04 DO YOU CALCULATE THE SQUARE ROOT OF A QUANTITY.	1	2	0	0	0	0
A 5 A1-05 DO YOU SOLVE FOR UNKNOWN QUANTITIES.	16	14	27	8	9	0
A 6 A1-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.	1	2	0	0	0	0
A 7 A1-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.	1	2	0	0	0	0
A 8 A1-08 DO YOU SOLVE QUADRATIC EQUATIONS.	1	2	0	0	0	0
A 9 A1-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS.	1	2	0	0	0	0
A 10 A1-10 DO YOU PERFORM CALCULATIONS ON VECTOR QUANTITIES.	1	2	0	0	0	0
A 11 A1-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.	1	2	0	0	0	0
A 12 A1-12 DO YOU DETERMINE AREAS OF PLANE FIGURES.	10	7	27	0	0	0
A 13 A1-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.	4	3	9	0	3	0
A 14 A1-14 DO YOU SOLVE OR USE PROPORTIONS.	10	10	9	0	6	0
A 15 A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT (V)?	87	86	82	92	91	83
A 16 A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).	30	28	45	17	29	33
A 17 A2-03 DO YOU USE THE TERM OHM.	90	88	100	92	91	100
A 18 A2-04 DO YOU USE THE TERM ION.	3	3	0	0	3	0
A 19 A2-05 DO YOU USE THE TERM DYNE.	3	3	0	0	3	0
A 20 A2-06 DO YOU USE THE TERM AMPERE.	83	83	82	75	89	83
A 21 A2-07 DO YOU USE THE TERM NEUTRON.	4	3	9	0	3	0
A 22 A2-08 DO YOU USE THE TERM COULOMB.	4	5	0	0	6	0
A 23 A2-09 DO YOU USE THE TERM PROTON.	7	5	18	0	6	0
A 24 A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.	77	72	100	67	74	100
A 25 A3-02 DO YOU INSPECT RESISTORS.	84	81	100	83	80	100
A 26 A3-03 DO YOU CLEAN RESISTORS.	49	48	55	58	37	33
A 27 A3-04 DO YOU ADJUST RESISTORS.	80	78	91	92	74	100
A 28 A3-05 DO YOU CHECK OHMIC VALUE OR RESISTORS.	87	84	100	92	80	100
A 29 A3-06 DO YOU REMOVE OR REPLACE RESISTORS.	81	79	91	92	71	83
A 30 A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS YOU PERFORM.	19	21	9	17	11	0
A 31 A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS SUCH AS FIXED RESISTOR SYMBOLS OR TAPPED RESISTOR SYMBOLS.	62	60	73	67	54	50
A 32 A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT, OR POTENTIOMETER.	65	66	64	83	57	50
A 33 A3-10 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE OHMIC VALUE OF RESISTANCE.	80	78	91	75	60	83

PCT MBR'S RESPONDING \*YES\* BY SELECTED GROUPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

GPSUM2 PAGE 3

	DY-TSK	SPC	SPC	SPC	SPC	SPC	SPC
		026	027	028	029	030	031
A 34 A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE TOLERANCE.		68	66	82	75	60	83
A 35 A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE FAILURE RATE.		22	17	45	17	17	33
A 36 A3-13 DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO ACHIEVE A SPECIFIC VOLTAGE.		25	24	27	17	23	33
A 37 A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT BATTERIES, FUSES, CONDUCTORS, LAMPS, OR SWITCHES.		84	81	100	83	77	100
A 38 A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.		38	34	55	42	26	50
A 39 A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.		35	33	45	42	23	33
A 40 A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.		36	33	55	42	23	50
A 41 A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.		26	24	36	33	11	17
A 42 A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.		33	29	55	42	17	50
A 43 A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.		35	33	45	42	23	33
A 44 A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.		33	29	55	33	20	50
A 45 A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.		29	26	45	33	17	33
A 46 A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.		28	26	36	25	17	17
A 47 A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.		28	24	45	50	9	33
A 48 A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.		26	24	36	33	14	17
A 49 A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.		26	22	45	33	11	33
A 50 A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.		25	22	36	33	11	17
A 51 A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.		22	21	27	25	11	0
B 52 B1-01 DO YOU MEASURE RESISTANCE.		87	86	91	92	86	100
B 53 B1-02 DO YOU REPAIR OHMMETERS.		1	2	0	0	0	0
B 54 B1-03 DO YOU MEASURE VOLTAGE.		88	90	82	100	89	83
B 55 B1-04 DO YOU REPAIR VOLTMETERS.		1	2	0	0	0	0
B 56 B1-05 DO YOU REPAIR AMMETERS.		0	0	0	0	0	0
B 57 B1-06 DO YOU MEASURE CURRENT.		70	71	64	75	66	50
B 58 B1-07 DO YOU USE MULTIMETERS.		91	91	92	91	100	
B 59 B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.		0	0	0	0	0	0
B 60 B1-09 DO YOU READ SCHEMATICS.		91	90	100	100	86	100

#### TASK GROUP SUMMARY PERCENT MEMBERS PERFORMING

		SPC	SPC	SPC	SPC	SPC	SPC
B	61	026	027	028	029	030	031
B	62	32-01 DO YOU USE OR REFER TO THE TERM EFFECTIVE VOLTAGE IN RMS).	30	29	36	17	29
B	63	62-02 DO YOU USE OR REFER TO THE TERM PEAK TO PEAK VOLTAGE.	33	34	27	17	34
B	64	62-03 DO YOU USE OR REFER TO THE TERM AVERAGE VOLTAGE (DC).	25	22	36	17	17
B	65	62-04 DO YOU USE OR REFER TO THE TERM WAVE LENGTH.	26	29	9	0	34
B	66	62-05 DO YOU USE OR REFER TO THE TERM FREQUENCY.	35	36	27	8	43
B	67	62-06 DO YOU USE OR REFER TO THE TERM INSTANTANEOUS VALUE.	6	3	18	0	6
B	68	83-01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKE COILS IN YOUR PRESENT JOB.	13	16	0	0	17
B	69	83-02 DO YOU INSPECT INDUCTORS.	7	9	0	0	6
B	70	83-03 DO YOU CLEAN INDUCTORS.	6	7	0	0	8
B	71	83-04 DO YOU ADJUST INDUCTORS.	13	16	0	0	17
B	72	83-05 DO YOU REMOVE OR REPLACE INDUCTORS.	9	10	0	0	8
B	73	83-06 DO YOU USE OR REFER TO INDUCTANCE.	7	9	0	0	6
B	74	83-07 DO YOU USE OR REFER TO HENRIES.	9	10	0	0	6
B	75	83-08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.	0	0	0	0	9
B	76	83-09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.	0	0	0	0	0
B	77	83-10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.	0	0	0	0	0
B	78	83-11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS.	0	0	0	0	0
B	79	83-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE NUMBER OF TURNS OF THE COIL.	4	5	0	0	0
B	80	83-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE CROSS-SECTIONAL AREA OF THE CORE.	0	0	0	0	0
B	81	83-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO ITS LENGTH.	6	7	0	8	0
B	82	83-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE PERMEABILITY OF THE CORE MATERIAL.	0	0	0	0	0
B	83	83-16 DO YOU CALCULATE INDUCTANCE FOR PARTICULAR INDUCTORS USING FORMULAS.	4	5	0	0	0
B	84	83-17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTANCE IN SERIES.	9	10	0	8	6
B	85	83-18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.	9	10	0	8	6
B	86	83-19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.	9	7	0	0	6
B	87	83-20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC CIRCUITS.	7	9	0	0	6
B	88	83-21 DO YOU CALCULATE INDUCTIVE REACTANCE.	6	7	0	0	3
B	89	83-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO FREQUENCY.	12	12	9	8	9
B	90	83-23 DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.	0	0	0	0	0
B	91	83-24 DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.	0	0	0	0	0

PCT MBR'S RESPONDING \*YES\* BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

GP5UM2 PAGE 5

	DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
C 92 C1-01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS IN YOUR PRESENT JOB.		62	66	45	67	69	50
C 93 C1-02 DO YOU INSPECT CAPACITORS.		62	62	64	67	57	67
C 94 C1-03 DO YOU CLEAN CAPACITORS.		32	33	27	17	29	17
C 95 C1-04 DO YOU ADJUST CAPACITORS.		17	19	9	0	23	0
C 96 C1-05 DO YOU TEST CAPACITORS.		55	55	55	50	51	67
C 97 C1-06 DO YOU DISCHARGE CAPACITORS.		39	41	27	25	40	33
C 98 C1-07 DO YOU REMOVE OR REPLACE CAPACITORS.		59	60	55	67	54	50
C 99 C1-08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.		9	9	9	8	6	17
C 100 C1-09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.		1	2	0	0	3	0
C 101 C1-10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.		42	45	27	25	51	17
C 102 C1-11 DO YOU USE OR REFER TO CAPACITANCE.		45	45	45	33	46	50
C 103 C1-12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT		3	3	0	0	6	0
C 104 C1-13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS.		26	28	18	0	29	33
C 105 C1-14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE		28	28	27	17	23	33
C 106 C1-15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES		22	24	9	25	20	0
C 107 C1-16 DO YOU WORK WITH CAPACITORS IN DC CIRCUITS		54	55	45	42	57	33
C 108 C1-17 DO YOU WORK WITH CAPACITORS IN AC CIRCUITS		52	57	27	33	63	17
C 109 C1-18 DO YOU WORK WITH CAPACITORS IN CIRCUITS WITH BOTH DC AND AC		48	48	45	17	54	33
C 110 C1-19 DO YOU WORK WITH CAPACITORS IN DON'T REMEMBER WHICH CIRCUITS		10	10	9	8	9	0
C 111 C1-20 DO YOU CALCULATE CAPACITANCE FOR PARTICULAR CAPACITORS USING FORMULAS		9	10	0	0	6	0
C 112 C1-21 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL TO THE DIELECTRIC CONSTANT		3	2	9	0	3	17
C 113 C1-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL TO THE DIELECTRIC THICKNESS		7	7	0	0	0	17
C 114 C1-23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES		14	17	0	17	9	0
C 115 C1-24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL		14	16	9	8	9	17
C 116 C1-25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS		12	14	0	0	9	0
C 117 C1-26 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY APPEARS TO DO SO		13	16	0	0	14	0
C 118 C1-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS		20	21	18	0	17	17
C 119 C1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO FREQUENCY		13	12	18	0	6	17
C 120 C1-29 DO YOU CALCULATE CAPACITIVE REACTANCE		13	16	0	8	11	0

#### TASK GROUP SUMMARY

	SPC						
	026	027	028	029	030	031	
C 121 C1-30 DO YOU WORK WITH ROTOR-STATOR (VARIABLE) CAPACITORS	7	9	0	0	14	0	
C 122 C1-31 DO YOU WORK WITH COMPRESSSION (TRIMMER) CAPACITORS	3	2	9	0	3	17	
C 123 C1-32 DO YOU WORK WITH ELECTROLYTIC (FIXED) CAPACITORS	36	40	18	25	46	0	
C 124 C1-33 DO YOU WORK WITH PAPER (FIXED) CAPACITORS	23	26	9	17	23	0	
C 125 C1-34 DO YOU WORK WITH MICA (FIXED) CAPACITORS	32	38	0	25	43	0	
C 126 C1-35 DO YOU WORK WITH CERAMIC (FIXED) CAPACITORS	41	45	18	50	43	17	
C 127 C1-36 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS	12	9	27	8	6	33	
C 128 C2-01 DO YOU WORK WITH TRANSFORMERS IN YOUR PRESENT JOB	14	14	18	0	14	17	
C 129 C2-02 DO YOU INSPECT TRANSFORMERS	19	19	18	17	17	17	
C 130 C2-03 DO YOU CLEAN TRANSFORMERS	14	17	0	17	14	0	TRANSFORMERS
C 131 C2-04 DO YOU ADJUST TRANSFORMERS	3	3	0	0	3	0	
C 132 C2-05 DO YOU TROUBLESHOOT TRANSFORMERS	17	21	0	17	17	0	
C 133 C2-06 DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS	19	19	18	8	17	17	
C 134 C2-07 DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING	1	2	0	0	0	0	
C 135 C2-08 DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTION AND MUTUAL INDUCTANCE (MI)	0	0	0	0	0	0	
C 136 C2-09 DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M	0	0	0	0	0	0	
C 137 C2-10 DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS	0	0	0	0	0	0	
C 138 C2-11 DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS	3	3	0	0	6	0	
C 139 C2-12 DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS	0	0	0	0	0	0	
C 140 C2-13 DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS	0	0	0	0	0	0	
C 141 C2-14 DO YOU WORK WITH AUTOTRANSFORMERS	3	3	0	0	6	0	
C 142 C2-15 DO YOU WORK WITH POWER TRANSFORMERS	14	14	18	8	14	17	
C 143 C2-16 DO YOU WORK WITH AUDIO TRANSFORMERS	1	2	0	0	3	0	
C 144 C2-17 DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS	0	0	0	0	0	0	
C 145 C2-18 DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMERS	9	10	0	8	6	0	
C 146 C2-19 DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE	13	14	9	8	14	17	
C 147 C2-20 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE	12	12	9	8	14	17	
C 148 C2-21 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES	12	12	9	8	9	17	
C 149 C2-22 DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO	3	3	0	0	3	0	
C 150 C2-23 DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO	7	9	0	0	9	0	
C 151 C2-24 DO YOU REFER TO BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS	17	17	18	8	17	17	

PCT MRS RESPONDING 'YES' BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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DY-TASK	SPC						
C 152 C2-25 DO YOU REFER TO MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS	9	9	9	8	11	17	
C 153 C2-26 DO YOU REFER TO MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	9	10	0	17	11	0	
C 154 C2-27 DO YOU REFER TO CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	10	12	0	17	14	0	
C 155 C2-28 DO YOU REFER TO AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	6	7	0	0	11	0	
C 156 C2-29 DO YOU REFER TO IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	7	9	0	8	11	0	
C 157 C2-30 DO YOU REFER TO COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS	10	12	0	17	11	0	
C 158 C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING SCHEMATIC SYMBOLS	4	5	0	0	9	0	
C 159 C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH	4	5	0	8	6	0	
C 160 C2-33 DO YOU REFER TO OR USE THE GENERAL RULE THAT THE TURNS RATIO OF A TRANSFORMER IS EQUAL TO THE VOLTAGE RATIO FOR TRANSFORMERS	6	7	0	0	9	0	
C 161 C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS	9	10	0	0	11	0	
C 162 C2-35 DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS	3	3	0	0	6	0	
C 163 C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS	1	2	0	0	3	0	
C 164 C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH THREE PHASE TRANSFORMERS	1	2	0	0	3	0	
C 165 C2-38 DO YOU INSPECT THREE PHASE TRANSFORMERS	1	2	0	0	3	0	
C 166 C2-39 DO YOU CLEAN OR LUBRICATE THREE PHASE TRANSFORMERS	0	0	0	0	0	0	
C 167 C2-40 DO YOU ADJUST THREE PHASE TRANSFORMERS	0	0	0	0	0	0	
C 168 C2-41 DO YOU TROUBLESHOOT THREE PHASE TRANSFORMERS	1	2	0	0	3	0	
C 169 C2-42 DO YOU REMOVE OR REPLACE COMPLETE THREE PHASE TRANSFORMERS	1	2	0	0	3	0	
C 170 C2-43 DO YOU REMOVE OR REPLACE THREE PHASE TRANSFORMER PARTS SUCH AS WINDINGS	0	0	0	0	0	0	
C 171 C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS	4	3	0	0	3	0	
C 172 C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS	3	2	0	0	0	0	MAGNETISM
C 173 C3-03 DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS	1	2	0	0	0	0	
C 174 C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS	0	0	0	0	0	0	
C 175 C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS	1	2	0	0	0	0	
C 176 C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM	0	0	0	0	0	0	
C 177 C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX	0	0	0	0	0	0	
C 178 C3-08 DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM	0	0	0	0	0	0	

PCT MARS RESPONDING "YES" BY SELECTED CRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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DR-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
C 179 C3-D9 DO YOU USE OR REFER TO DOMAIN THEORY OF MAGNETISM	0	0	0	0	0	0
C 180 C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION	1	0	9	0	0	0
C 181 C3-11 DO YOU USE OR REFER TO FLUX DENSITY	0	0	0	0	0	0
C 182 C3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES ATTRACT	17	19	9	0	14	0
C 183 C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES	7	7	9	0	9	0
C 184 C3-14 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL	7	7	9	0	9	0
D 185 D1-01 DO YOU WORK WITH RC, LR, RCL CIRCUITS IN YOUR PRESENT JOB	3	3	0	0	6	0
D 186 D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 187 D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 188 D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 189 D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 190 D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 191 D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS	3	3	0	0	6	0
D 192 D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 193 D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 194 D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS	1	2	0	0	3	0
D 195 D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 196 D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 197 D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 198 D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 199 D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 200 D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 201 D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 202 D1-18 DO YOU USE OR REFER TO BANDPASS REGION WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0
D 203 D1-19 DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS	0	0	0	0	0	0

PCT MBR'S RESPONDING 'YES' BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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	DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
D 204 D1-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS		0	0	0	0	0	0
D 205 D1-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS		0	0	0	0	0	0
D 206 D1-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS		0	0	0	0	0	0
D 207 D1-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS		1	2	0	0	3	0
D 208 D1-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS		0	0	0	0	0	0
D 209 D1-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS		1	2	0	0	3	0
D 210 D1-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS		0	0	0	0	0	0
D 211 D1-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS		0	0	0	0	0	0
D 212 D1-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS		0	0	0	0	0	0
D 213 D1-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS		0	0	0	0	0	0
D 214 D1-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS		0	0	0	0	0	0
D 215 D1-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS		0	0	0	0	0	0
D 216 D1-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD		0	0	0	0	0	0
D 217 D1-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW		1	2	0	0	3	0
D 218 D1-34 DO YOU CHECK CAPACITORS USING OMMETERS		6	7	0	0	9	0
D 219 D1-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION		4	5	0	0	6	0
D 220 D1-36 DO YOU CHECK INDUCTORS USING OMMETERS		6	7	0	0	9	0
D 221 D1-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION		3	3	0	0	6	0
D 222 D1-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT $\Theta = 0^\circ$ , $PF = 1$ , AND $PA = PT$ FOR RESONANT CIRCUITS		0	0	0	0	0	0
D 223 D1-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS		0	0	0	0	0	0
D 224 D1-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE RESONANT FREQUENCY FOR SERIES RCL CIRCUITS		0	0	0	0	0	0
D 225 D1-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT RESONANT FREQUENCY FOR PARALLEL RCL CIRCUITS		0	0	0	0	0	0
D 226 D1-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK CURRENT VALUE		0	0	0	0	0	0
D 227 D1-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q		0	0	0	0	0	0
D 228 D1-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT CURRENT OR PHASE ANGLES FOR RCL CIRCUITS		0	0	0	0	0	0

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

0Y-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
D 229 02-01 IN YOUR PRESENT JOB, DO YOU WORK WITH USE, OR REFER TO SERIES OR PARALLEL RESONANT CIRCUITS OR TIME CONSTANTS	3	2	9	0	3	17
D 230 02-02 DO YOU WORK WITH USE, OR REFER TO TIME CONSTANTS OR TIME CONSTANTS (ITC)	1	2	0	0	3	0
D 231 02-03 DO YOU WORK WITH USE, OR REFER TO AVAILABLE VOLTAGE	3	2	9	0	3	17
D 232 03-04 DO YOU WORK WITH USE, OR REFER TO TRANSIENT INTERVALS	1	2	0	0	3	0
D 233 02-05 DO YOU USE OR REFER TO THE GENERAL RULE THAT A CAPACITOR IS FULLY CHARGED (OR DISCHARGED) AFTER FIVE (5) TIME CONSTANTS (ITC)	3	3	0	0	6	0
D 234 02-06 DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS	0	0	0	0	0	0
D 235 02-07 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUIT CURRENT OR COMPONENT VOLTTAGES AFTER A SPECIFIC TIME FOR RC OR LR CIRCUITS	3	3	0	0	6	0
D 236 02-08 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE THE TIME REQUIRED FOR CIRCUIT CURRENT OR COMPONENT VOLTTAGES TO REACH SPECIFIC VALUES FOR RC OR LR CIRCUITS	1	2	0	0	3	0
D 237 02-09 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE COMPONENT VALUES REQUIRED FOR CIRCUIT CURRENT AND COMPONENT VOLTTAGES TO REACH SPECIFIC VALUES IN SPECIFIC TIMES	1	2	0	0	3	0
D 238 02-10 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT IN LR CIRCUITS REACHES ITS MINIMUM VALUE (OR ZERO) AFTER FIVE (5) TIME CONSTANTS	1	2	0	0	3	0
D 239 03-01 DO YOU WORK WITH CIRCUITS USED AS FILTERS IN YOUR PRESENT JOB	22	22	18	0	31	17
D 240 03-02 DO YOU INSPECT FILTER CIRCUITS	23	24	18	3	31	17
D 241 03-03 DO YOU CLEAN FILTER CIRCUITS	9	10	0	3	9	0
D 242 03-04 DO YOU ALIGN OR ADJUST FILTER CIRCUITS	6	5	9	8	3	0
D 243 03-05 DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT LEVEL	19	19	18	8	23	17
D 244 03-06 DO YOU TROUBLESHOOT TO COMPONENT PARTS	13	14	9	8	14	0
D 245 03-07 DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT	25	26	18	8	34	17
D 246 03-08 DO YOU REMOVE OR REPLACE FILTER CIRCUIT COMPONENT PARTS	10	12	0	8	11	0
D 247 D3-09 DO YOU WORK WITH LOW PASS FILTERS	1	2	0	0	3	0
D 248 D3-10 DO YOU WORK WITH HIGH PASS FILTERS	3	3	0	8	3	0
D 249 03-11 DO YOU WORK WITH BANDPASS FILTERS	1	2	0	8	0	0
D 250 03-12 DO YOU WORK WITH BAND-REJECT FILTERS	0	0	0	0	0	0
D 251 D3-13 DON'T REMEMBER WHICH TYPE OF FILTER YOU WORK WITH	17	17	18	0	23	17
D 252 D3-14 DON'T REMEMBER WHICH SECTION FILTER CONFIGURATION	1	2	0	0	3	0
D 253 D3-15 DO YOU WORK WITH T-SECTION FILTER CONFIGURATION	1	2	0	0	3	0
D 254 D3-16 DO YOU WORK WITH T-SERIES SECTION FILTER CONFIGURATION	1	2	0	0	3	0
D 255 D3-17 DO YOU WORK WITH WITCH TYPE FILTER CONFIGURATION	16	16	18	0	20	17
D 256 D3-18 DO YOU WORK WITH USE PARALLEL RESONANT CIRCUIT	4	5	0	0	6	0
D 257 D3-19 DO YOU WORK WITH USE SERIES-PARALLEL CIRCUITS	6	7	0	0	9	0
D 258 D3-20 DO YOU WORK WITH USE SERIES RESONANT CIRCUITS	7	7	9	8	6	17

PCT MBR'S RESPONDING "YES" BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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	DO	PERCENT MEMBERS PERFORMING	GROUP SUMMARY	DO-TSK	SPC						
D 259	D3-21	DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT			026	027	028	029	030	031	
D 260	D3-22	DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC FILTERS			1	2	0	0	0	0	
E 261	E1-01	DO YOU WORK WITH COUPLING DEVICES IN YOUR PRESENT JOB			6	3	16	0	6	17	
E 262	E1-02	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITY THE COMPONENTS ASSOCIATED WITH RC COUPLING			4	3	9	0	6	0	
E 263	E1-03	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITY THE COMPONENTS ASSOCIATED WITH IMPEDANCE COUPLING			3	2	9	0	3	0	COUPLING
E 264	E1-04	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITY THE COMPONENTS ASSOCIATED WITH TRANSFORMER COUPLING			4	2	18	0	3	17	
E 265	E1-05	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM RC COUPLING			4	3	9	0	6	0	
E 266	E1-06	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM IMPEDANCE COUPLING			3	2	9	0	3	0	
E 267	E1-07	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM TRANSFORMER COUPLING			4	2	18	0	3	17	
E 268	E1-08	DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS			4	3	9	0	6	0	
E 269	E1-09	DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED CIRCUITS			4	3	9	0	6	0	
E 270	E1-10	DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED CIRCUITS			3	2	9	0	3	0	
E 271	E1-11	DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS			3	0	18	0	0	17	
E 272	E1-12	DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUITS			0	0	0	0	0	0	
E 273	E2-01	IN YOUR PRESENT JOB, DO YOU PERFORM SOLDERING TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS			88	86	100	92	86	100	
E 274	E2-02	DO YOU SELECT TYPE OF SOLDER TO USE			81	84	64	92	83	50	SOLDERING
E 275	E2-03	DO YOU ADD FLUX TO CONNECTIONS			80	78	91	92	71	63	
E 276	E2-04	DO YOU CLEAN CONNECTIONS USING SOLVENTS			71	67	91	92	60	83	
E 277	E2-05	DO YOU STRIP INSULATION FROM WIRES			93	91	100	100	89	100	
E 278	E2-06	DO YOU CONNECT OR DISCONNECT HEAT SINKS			84	81	100	83	80	100	
E 279	E2-07	DO YOU BEND OR SHAPE WIRES OR LEADS			88	86	100	100	80	100	
E 280	E2-08	DO YOU CUT WIRES			91	90	100	100	86	100	
E 281	E2-09	DO YOU FILE OR SHAPE SOLDERING IRON TIPS			72	74	64	83	71	50	
E 282	E2-10	DO YOU TIN SOLDERING IRON TIPS			88	86	100	100	80	100	
E 283	E2-11	DO YOU CLEAN SOLDERING IRON TIPS			90	88	100	100	83	100	
E 284	E2-12	DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS			55	57	45	75	51	33	
E 285	E2-13	DO YOU TIN OR PRE-TIN CONDUCTORS			75	74	82	100	71	67	
E 286	E2-14	DO YOU INSPECT SOLDERED CONNECTIONS			91	90	100	100	86	100	
E 287	E2-15	DO YOU DESOLDER CONNECTIONS BY WICKING			68	69	64	83	57	50	
E 288	E2-16	DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING TOOLS			75	74	82	92	80	100	
E 289	E2-17	DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS			61	59	73	58	57	67	
E 290	E2-18	DO YOU CRUSH COMPONENTS FOR REMOVAL			14	17	0	17	20	C	

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

		0Y-TSK	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
		026	027	028	029	030	031				
E 291	E2-19 DO YOU MAKE HARDWIRED CONNECTIONS	62	64	55	75	57	67				
E 292	E2-20 DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	71	67	91	33	77	83				
E 293	E2-21 DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	71	67	91	33	80	83				
E 294	E2-22 DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	70	67	82	25	80	67				
E 295	E3-01 DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	68	67	73	100	54	67				
E 296	E3-02 DO YOU ADJUST RELAYS	26	24	36	33	14	33				
E 297	E3-03 DO YOU CLEAN RELAYS	42	43	36	75	23	33	RELAYS			
E 298	E3-04 DO YOU INSPECT RELAYS	59	59	64	92	43	50				
E 299	E3-05 DO YOU REMOVE OR REPLACE COMPLETE RELAYS	68	67	73	100	51	67				
E 300	E3-06 DO YOU REMOVE OR REPLACE PARTS OR RELAYS	14	16	9	42	0	0				
E 301	E3-07 DO YOU TROUBLESHOOT RELAYS	62	60	73	92	46	67				
E 302	E3-08 DO YOU STRAIGHTEN RELAY CONTACTS	38	40	27	75	26	0				
E 303	E3-09 DO YOU PERFORM TASKS ON RELAY CONTACTS	35	36	27	75	20	0				
E 304	E3-10 DO YOU PERFORM TASKS ON RELAY CORES	9	9	9	25	0	0				
E 305	E3-11 DO YOU PERFORM TASKS ON RELAY COILS	13	12	18	33	3	0				
E 306	E3-12 DO YOU PERFORM TASKS ON RELAY ARMATURES	13	14	9	25	6	0				
E 307	E3-13 DO YOU PERFORM TASKS ON RELAY SPRINGS	16	17	9	42	6	0				
E 308	E3-14 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST) OR NORMALLY OPEN (NO) SCHEMATIC SYMBOLS FOR RELAYS	51	50	55	75	40	33				
E 309	E3-15 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	51	50	55	75	40	33				
E 310	E3-16 DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS	48	47	55	75	37	33				
E 311	E3-17 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	51	50	55	67	43	33				
E 312	E3-18 DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	42	40	55	75	26	33				
E 313	E3-19 DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	38	38	36	50	29	17				
F 314	F1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	0	0	0	0	0	0	MICROPHONES			
F 315	F1-02 DO YOU INSPECT MICROPHONES	0	0	0	0	0	0	MICROPHONES			
F 316	F1-03 DO YOU CLEAN MICROPHONES	0	0	0	0	0	0				
F 317	F1-04 DO YOU OPERATE MICROPHONES	0	0	0	0	0	0				
F 318	F1-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF MICROPHONES	0	0	0	0	0	0				
F 319	F1-06 DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	0	0	0	0	0	0				
F 320	F1-07 DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	0	0	0	0	0	0				
F 321	F1-08 DO YOU REMOVE OR REPLACE MICROPHONE PARTS	0	0	0	0	0	0				
F 322	F1-09 DO YOU PERFORM TASKS ON CARBON MICROPHONES	0	0	0	0	0	0				
F 323	F1-10 DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	0	0	0	0	0	0				
F 324	F1-11 DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	0	0	0	0	0	0				
F 325	F1-12 DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	0	0	0	0	0	0				
F 326	F1-13 DO YOU PERFORM TASKS ON VIBRATING RIB MICROPHONES	0	0	0	0	0	0				

PCT MBR'S RESPONDING "YES" BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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	DY-TASK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
F 327 F2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS	0 0 0 0 0 0 0						
F 328 F2-02 DO YOU INSPECT SPEAKERS	0 0 0 0 0 0 0						
F 329 F2-03 DO YOU CLEAN SPEAKERS	0 0 0 0 0 0 0						
F 330 F2-04 DO YOU OPERATE SPEAKERS	0 0 0 0 0 0 0						
F 331 F2-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF SPEAKERS	0 0 0 0 0 0 0						
F 332 F2-06 DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS	0 0 0 0 0 0 0						
F 333 F2-07 DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS	0 0 0 0 0 0 0						
F 334 F2-08 DO YOU REMOVE OR REPLACE SPEAKER PARTS	0 0 0 0 0 0 0						
F 335 F2-09 DO YOU PERFORM ANY TASKS ON SPEAKER CONES	0 0 0 0 0 0 0						
F 336 F2-10 DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS	0 0 0 0 0 0 0						
F 337 F2-11 DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS	0 0 0 0 0 0 0						
F 338 F2-12 DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS	0 0 0 0 0 0 0						
F 339 F2-13 DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS	0 0 0 0 0 0 0						
F 340 F2-14 DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS	0 0 0 0 0 0 0						
F 341 F2-15 DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES	0 0 0 0 0 0 0						
F 342 F3-01 DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB	20 19 27 0 23 17						
F 343 F3-02 DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS	23 22 27 0 29 17						
F 344 F3-03 DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS	22 21 27 0 26 17						
F 345 F3-04 DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS	22 21 27 0 26 17						
F 346 F3-05 DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY	20 19 27 0 23 17						
F 347 F3-06 DO YOU USE OSCILLOSCOPES TO MEASURE TIME	16 14 27 0 14 17						
F 348 F3-07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS	6 5 9 0 9 0						
F 349 F3-08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES	7 7 9 0 11 0						
F 350 F3-09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS	4 2 18 0 3 0						
F 351 F3-10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE	19 17 27 0 20 17						
F 352 F3-11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS	9 9 9 0 6 0						
F 353 F3-12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE	19 17 27 0 20 17						
G 354 G1-01 DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB	68 66 82 58 63 83						
G 355 G1-02 DO YOU INSPECT DIODES	68 66 82 58 66 83						
G 356 G1-03 DO YOU REMOVE OR REPLACE DIODES	67 64 82 58 60 83						
G 357 G1-04 DO YOU CHECK DIODES USING AN INSTRUMENT	72 69 91 58 69 100						
G 358 G1-05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES	3 3 0 8 3 0						
G 359 G1-06 DO YOU USE PN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE, TO COMPUTE FORWARD OR REVERSE LIAS RESISTANCE	7 5 18 0 6 17						
G 360 G1-07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES	14 14 18 17 17 33						

**TASK GROUP SUMMARY**

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- G 361 G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT  
TEMPERATURE CAN AFFECT THE OPERATION OF DIODES

G 362 G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO  
OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON  
THEIR PHYSICAL APPEARANCE

G 363 G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL  
EFFECTS OF DOPING ON CURRENT FLOW

G 364 G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS  
RESISTANCE

G 365 G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING

G 366 G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN  
ELECTRON IN ORBIT AROUND A NUCLEUS

G 367 G1-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN  
ELECTRON IN ORBIT AROUND A NUCLEUS

G 368 G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH  
AS IN 538

G 369 G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON  
MOVING IN ORBIT

G 370 G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN  
ELECTRON MOVING IN ORBIT

G 371 G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS  
PERSISTENCE

G 372 G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A  
PARTICULAR SHELL OR ORBIT

G 373 G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF  
AN ORBITING ELECTRON

G 374 G1-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN  
ORBITING ELECTRON

G 375 G1-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN  
THE OUTERMOST SHELL)

G 376 G1-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF  
ELECTRONS IN ATOM)

G 377 G1-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH  
INDICATE THE CATHODE END

G 378 G1-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE  
CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON

G 379 G1-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE  
TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE  
INCREASES, RESISTANCE DECREASES)

G 380 G1-27 DO YOU USE OR REFER TO PN JUNCTION DIODE  
CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT  
CHARACTERISTIC CURVES (PERHAPS YOU DO THIS TO IDENTIFY  
POINTS OF STRUCTURAL BREAKDOWN OR OPERATING REGIONS)

G 381 G1-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE  
FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR  
INTERPRET CIRCUIT DIAGRAMS

G 382 G1-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR  
MATERIALS

PCT MBR'S RESPONDING 'YES' BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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	DO-TSK	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
6 383 61-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	0	0	0	0	0	0
6 384 61-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	1	2	0	0	3	0					
6 385 61-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	0	0	0	0	0	0
6 386 61-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	1	2	0	0	3	0					
6 387 61-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	4	3	9	0	6	0					
6 388 61-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	0	0	0	0	0	0	0	0	0	0	0
6 389 61-36 DO YOU USE OR REFER TO ACCEPATOR IMPURITY IN SEMICONDUCTORS	0	0	0	0	0	0	0	0	0	0	0
6 390 61-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	10	10	9	0	3	0					
6 391 61-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	10	10	9	0	3	0					
6 392 61-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	0	0	0	0	0	0	0	0	0	0	0
6 393 61-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	0	0	0	0	0	0	0	0	0	0	0
6 394 61-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	0	0	0	0	0	0	0	0	0	0	0
6 395 61-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	0	0	0	0	0	0	0	0	0	0	0
6 396 61-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	1	2	0	0	3	0					
6 397 61-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES	20	22	9	25	17	17					
6 398 61-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	1	2	0	0	0	0	0	0	0	0	0
6 399 61-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	23	24	18	17	23	0					
6 400 61-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	4	3	9	0	6	17					
6 401 61-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	3	2	9	0	3	17					
6 402 61-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	6	5	9	8	6	17					
6 403 61-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	7	7	9	0	11	17					
6 404 62-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.	48	41	82	25	40	67					
6 405 62-02 DO YOU INSPECT TRANSISTORS	46	40	82	25	37	83	TRANSISTORS				
6 406 62-03 DO YOU REMOVE OR REPLACE TRANSISTORS	46	40	82	25	37	67					
6 407 62-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	45	36	91	25	31	83					
6 408 62-05 DO YOU USE OR REFER TO Emitter - Base (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	38	31	73	25	29	50					
6 409 62-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	35	29	64	17	29	50					

PCT HOURS RESPONDING "YES" BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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	NO-TASK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
6 410 62-07 DO YOU USE OR REFER TO Emitter - COLLECTOR (EC)	33	28	64	17	26	50	
6 411 62-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE RESISTANCE MEASUREMENTS	4	3	9	0	3	0	
6 412 62-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE Emitter - BASE JUNCTION	4	3	9	0	3	0	
6 413 62-10 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION	14	10	36	8	9	33	
6 414 62-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR STRUCTURE (COLLECTOR, BASE AND Emitter)	6	7	0	0	6	0	
6 415 62-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS	46	38	91	25	37	83	
6 416 62-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC	43	34	91	17	34	83	
6 417 62-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	23	21	36	8	17	17	
6 418 62-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE TRANSISTOR BASE CURRENT IS NORMALLY SIGNIFICANTLY SMALLER THAN THE Emitter CURRENT YE TUSUALLY IS BEING 2 TO 8 PERCENT OF IE	10	10	9	0	6	0	
6 419 62-16 DO YOU USE THE INFORMATION THAT THE EFFECT OF Emitter BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR TRANSISTORS	16	16	18	0	17	0	
6 420 62-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES	3	3	0	0	0	0	
6 421 62-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	1	2	0	0	0	0	
6 422 62-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS	1	0	9	0	0	0	
6 423 62-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	1	0	9	0	0	0	
6 424 62-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	1	0	9	0	0	0	
6 425 62-22 DO YOU CALCULATE BETA-TRANSISTOR GAINS	0	0	0	0	0	0	
6 426 62-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS	0	0	0	0	0	0	
6 427 62-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS	0	0	0	0	0	0	
6 428 63-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	4	5	0	0	6	0	
6 429 63-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS	3	3	0	0	3	0	TRANSISTOR AMPLIFIERS
6 430 63-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	3	3	0	0	3	0	
6 431 63-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	4	5	0	0	6	0	
6 432 63-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	4	5	0	0	6	0	
6 433 63-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	4	5	0	0	6	0	
6 434 63-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	4	5	0	0	6	0	
6 435 63-08 DO YOU USE OR REFER TO COMMON Emitter) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE CURRENT	0	0	0	0	0	0	
6 436 63-09 DO YOU USE OR REFER TO COMMON Emitter) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	0	0	0	0	0	0	

**TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING**

	DY-TSK	SPC	SPC	SPC	SPC	SPC
6 437 63-10 DO YOU USE OR REFER TO (COMMON Emitter) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE CURRENT	0	0	0	0	0	0
6 438 63-11 DO YOU USE OR REFER TO (COMMON Emitter) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	1	2	0	0	3	0
6 439 63-12 DO YOU USE OR REFER TO (COMMON Emitter) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL	0	0	0	0	0	0
6 440 63-13 DO YOU USE OR REFER TO (COMMON Emitter) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN BASE CURRENT WHICH RESULTS FROM A SPECIFIC INPUT SIGNAL	0	0	0	0	0	0
6 441 63-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A LOAD-LINE ON A TRANSISTOR CHARACTERISTIC CURVE)	0	0	0	0	0	0
6 442 63-15 DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR	0	0	0	0	0	0
6 443 63-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR	1	2	0	0	3	0
6 444 63-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON Emitter CONFIGURATION	1	2	0	0	3	0
6 445 63-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON Emitter CONFIGURATION	1	2	0	0	3	0
6 446 63-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON Emitter CONFIGURATION	1	2	0	0	3	0
6 447 63-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE-EMITTER VOLTAGE INTO THE CHANGE IN COLLECTOR VOLTAGE TO DETERMINE THE VOLTAGE GAIN	0	0	0	0	0	0
6 448 63-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE CURRENT INTO THE CHANGE IN COLLECTOR CURRENT TO DETERMINE THE CURRENT GAIN	0	0	0	0	0	0
6 449 63-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE CURRENT GAIN TIMES THE VOLTAGE GAIN TO DETERMINE THE POWER GAIN	0	0	0	0	0	0
6 450 63-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE INCREASES (THIS AFFECTS THE STATIC OPERATING POINT [Q1] OF THE TRANSISTOR)	0	0	0	0	0	0
6 451 63-24 DO YOU COMPUTE THE STATIC OPERATING POINT [Q1] OF A TRANSISTOR AT DIFFERENT TEMPERATURES	0	0	0	0	0	0
6 452 63-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH Emitter (Swamping) Resistor Stabilization	0	0	0	0	0	0
6 453 63-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH Self-Bias Stabilization	0	0	0	0	0	0



**TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING**

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

## DY-TSK

		SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
H 513	H3-02 DO YOU INSPECT OSCILLATORS	1	2	0	0	3	0
H 514	H3-03 DO YOU ALIGN OR ADJUST OSCILLATORS	1	2	0	0	3	0
H 515	H3-04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS	0	0	0	0	0	0
H 516	H3-05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS	1	2	0	0	3	0
H 517	H3-06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL	1	2	0	0	3	0
H 518	H3-07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS	1	2	0	0	3	0
H 519	H3-08 DO YOU USE OR REFER TO FEEDBACK	1	2	0	0	3	0
H 520	H3-09 DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES	1	2	0	0	3	0
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H 521	H3-10 DO YOU USE OR REFER TO AMPLITUDE STABILITY	3	3	0	0	6	0
H 522	H3-11 DO YOU USE OR REFER TO FREQUENCY STABILITY	3	3	0	0	6	0
H 523	H3-12 DO YOU USE OR REFER TO DAMPING	1	2	0	0	3	0
H 524	H3-13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK	1	2	0	0	3	0
H 525	H3-14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT	0	0	0	0	0	0
H 526	H3-15 DO YOU USE OR REFER TO CRITICAL DAMPING	0	0	0	0	0	0
H 527	H3-16 DO YOU USE OR REFER TO UNDER DAMPING	1	2	0	0	3	0
H 528	H3-17 DO YOU USE OR REFER TO OVER DAMPING	1	2	0	0	3	0
H 529	H3-18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK	1	2	0	0	3	0
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H 530	H3-19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD	1	2	0	0	3	0
H 531	H3-20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD	0	0	0	0	0	0
H 532	H3-21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD	0	0	0	0	0	0
H 533	H3-22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS	0	0	0	0	0	0
H 534	H3-23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS	0	0	0	0	0	0
H 535	H3-24 DO YOU WORK WITH COUPLED SINUSOIDAL OSCILLATORS	0	0	0	0	0	0
H 536	H3-25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS	0	0	0	0	0	0
H 537	H3-26 DO YOU WORK WITH BUTTER SINUSOIDAL OSCILLATORS	0	0	0	0	0	0
H 538	H3-27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS	0	0	0	0	0	0
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I 539	I1-01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB	1	2	0	0	3	0
I 540	I1-02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS	1	2	0	0	3	0
I 541	I1-03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS	1	2	0	0	3	0
I 542	I1-04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS	1	2	0	0	3	0
I 543	I1-05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS	1	2	0	0	3	0
I 544	I1-06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS	1	2	0	0	3	0
I 545	I1-07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS	0	0	0	0	0	0
I 546	I1-08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING CIRCUITS	1	2	0	0	3	0
I 547	I1-09 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS	1	2	0	0	3	0

PCT MBR'S RESPONDING \*YES\* BY SELECTED GRPS  
TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

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		DY-TSK	SPC								
			026	027	028	Q29	030	031			
1 548	11-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS		1	2	0	0	3	0			
1 549	11-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS		0	0	0	0	0	0			
1 550	11-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FOO		0	0	0	0	0	0			
1 551.	11-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS		1	2	0	0	3	0			
1 552	11-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS		1	2	0	0	3	0			
1 553	11-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS		0	0	0	0	0	0			
1 554	11-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS		0	0	0	0	0	0			
1 555	12-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB		0	0	0	0	0	0			
1 556	12-02 DO YOU WORK WITH SERIES DIODE LIMITERS		0	0	0	0	0	0			
1 557	12-03 DO YOU WORK WITH SHUNT DIODE LIMITERS		0	0	0	0	0	0			
1 558	12-04 DO YOU WORK WITH LIMITERS WITH BIAS		0	0	0	0	0	0			
1 559	12-05 DO YOU WORK WITH ZENER DIODE LIMITERS		0	0	0	0	0	0			
1 560	12-06 DO YOU WORK WITH TRANSISTOR LIMITERS		0	0	0	0	0	0			
1 561	12-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS		0	0	0	0	0	0			
1 562	12-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS		0	0	0	0	0	0			
1 563	12-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS		0	0	0	0	0	0			
1 564	12-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT		0	0	0	0	0	0			
1 565	13-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES		1	2	0	0	0	0			
1 566	13-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD		1	2	0	0	0	0			
1 567	13-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES		1	2	0	0	0	0			
1 568	13-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES		1	2	0	0	0	0			
1 569	13-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES		0	0	0	0	0	0			
1 570	13-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES		0	0	0	0	0	0			
1 571	13-07 DO YOU USE OR REFER TO CUT OFF		0	0	0	0	0	0			
1 572	13-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING		0	0	0	0	0	0			
1 573	13-09 DO YOU USE OR REFER TO PEAK CURRENT RATING		0	0	0	0	0	0			
1 574	13-10 DO YOU USE OR REFER TO TRANSIT TIME		0	0	0	0	0	0			
1 575	13-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING		0	0	0	0	0	0			
1 576	13-12 DO YOU USE OR REFER TO SATURATION		0	0	0	0	0	0			
1 577	13-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE		0	0	0	0	0	0			
1 578	13-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES		0	0	0	0	0	0			
1 579	13-15 DO YOU USE OR REFER TO PLATE VOLTAGE		0	0	0	0	0	0			
1 580	13-16 DO YOU USE OR REFER TO PLATE CURRENT		0	0	0	0	0	0			
1 581	13-17 DO YOU USE OR REFER TO GRID VOLTAGE		0	0	0	0	0	0			
1 582	13-18 DO YOU USE OR REFER TO GRID CURRENT		0	0	0	0	0	0			
1 583	13-19 DO YOU USE OR REFER TO CATHODE VOLTAGE		0	0	0	0	0	0			
1 584	13-20 DO YOU USE OR REFER TO CATHODE CURRENT		0	0	0	0	0	0			
1 585	13-21 DO YOU USE OR REFER TO THE TRIGODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS THE RATIO OF CHANGE IN PLATE VOLTAGE TO A CHANGE IN GRID VOLTAGE)		0	0	0	0	0	0			

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC						
			0.26	0.27	0.28	0.29	0.30	0.31	
I 586	13-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS		0	0	0	0	0	0	0
I 587	13-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS		0	0	0	0	0	0	0
I 588	13-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSDUCTANCE (16, WHICH IS MEASURED IN MHOS)		0	0	0	0	0	0	0
I 589	13-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSDUCTANCES		0	0	0	0	0	0	0
I 590	13-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE		0	0	0	0	0	0	0
I 591	13-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE		0	0	0	0	0	0	0
I 592	13-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE		0	0	0	0	0	0	0
I 593	13-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES		0	0	0	0	0	0	0
I 594	13-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS		0	0	0	0	0	0	0
I 595	13-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS		0	0	0	0	0	0	0
I 596	13-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF		0	0	0	0	0	0	0
I 597	13-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION		0	0	0	0	0	0	0
I 598	13-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN		0	0	0	0	0	0	0
I 599	13-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY		0	0	0	0	0	0	0
I 600	13-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN		1	2	0	0	0	0	0
I 601	13-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN		1	2	0	0	0	0	0
I 602	13-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN		0	0	0	0	0	0	0
I 603	13-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN		0	0	0	0	0	0	0
I 604	13-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE		0	0	0	0	0	0	0
I 605	13-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION		0	0	0	0	0	0	0
I 606	13-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS		0	0	0	0	0	0	0
I 607	13-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE MOUNTING SURFACE IN THE ELECTRON TUBE YOU WORK ON		0	0	0	0	0	0	0
I 608	13-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS TUBES OR CHASSIS		0	0	0	0	0	0	0
I 609	13-45 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRIVATE JOB		0	0	0	0	0	0	ELECTRON TUBE AMPLIFIERS AND CIRCUITS
I 610	13-46 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO SHOOT SHOOT AMPLIFIER CIRCUITS		0	0	0	0	0	0	

## PCT MBRS RESPONDING "YES" BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC	SPC	SPC	SPC	SPC	SPC
J 611 J1-03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	0	0	0	0	0	0	0
J 612 J1-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	0	0	0	0	0	0	0
J 613 J1-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	0	0	0	0	0	0	0
J 614 J1-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	0	0	0	0	0	0	0
J 615. J1-07 DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER	0	0	0	0	0	0	0
J 616 J2-01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)	0	0	0	0	0	0	0
J 617 J2-02 DO YOU WORK WITH CATHODE-RAY TUBES	1	2	0	0	3	0	SPECIAL PURPOSE ELECTRON TUBES
J 618 J2-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES	0	0	0	0	0	0	
J 619 J2-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED	0	0	0	0	0	0	
J 620 J2-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS	0	0	0	0	0	0	
J 621 J2-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED	0	0	0	0	0	0	
J 622 J2-07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)	0	0	0	0	0	0	
J 623 J2-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	0	0	0	0	0	0	
J 624 J2-09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	0	0	0	0	0	0	
J 625 J2-10 DO YOU USE OR REFER TO PHOSPHOR SCREENS	0	0	0	0	0	0	
J 626 J2-11 DO YOU USE OR REFER TO AQUADAG COATINGS	0	0	0	0	0	0	
J 627 J2-12 DO YOU USE OR REFER TO ELECTRON OPTICS	0	0	0	0	0	0	
J 628 J2-13 DO YOU USE OR REFER TO PERSISTENCE	0	0	0	0	0	0	
J 629 J2-14 DO YOU USE OR REFER TO DECAY TIMES	0	0	0	0	0	0	
J 630 J2-15 DO YOU USE OR REFER TO FLUORESCENCE	0	0	0	0	0	0	
J 631 J2-16 DO YOU USE OR REFER TO PHOSPHORESCENCE	0	0	0	0	0	0	
J 632 J3-01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	0	0	0	0	0	0	HETERODYNING, MODULATION, AND DEMODULATION
J 633 J3-02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	0	0	0	0	0	0	
J 634 J3-03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS	0	0	0	0	0	0	
J 635 J3-04 DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	
J 636 J3-05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS	0	0	0	0	0	0	
J 637 J3-06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS	0	0	0	0	0	0	
K 638 K1-01 DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	0	0	0	0	0	0	AM SYSTEMS
K 639 K1-02 DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	
K 640 K1-03 DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	
K 641 K1-04 DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	

PCT MEMBERS RESPONDING "YES" BY SELECTED CRRS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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Q-Y-TASK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
K 642 K1-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0
K 643 K1-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	0	0
K 644 K1-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0
K 645 K1-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	0	0
K 646 K1-09 DO YOU PERFORM TASKS ON RF OSCILLATORS	0	0	0	0	0	0
K 647 K1-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS	0	0	0	0	0	0
K 648 K1-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	0	0	0	0	0	0
K 649 K1-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	0	0	0	0	0	0
K 650 K1-13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	0	0	0	0	0	0
K 651 K1-14 DO YOU PERFORM TASKS ON IF AMPLIFIERS	0	0	0	0	0	0
K 652 K1-15 DO YOU PERFORM TASKS ON DETECTORS	0	0	0	0	0	0
K 653 K1-16 DO YOU PERFORM TASKS ON DONT REMEMBER WHICH AM STAGE TRANSMITTERS	0	0	0	0	0	0
K 654 K1-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	0	0	0	0	0	0
K 655 K1-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	0	0	0	0	0	0
K 656 K1-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	0	0	0	0	0	0
K 657 K1-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	1	2	0	0	3	0
K 658 K1-21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	0	0	0	0	0	0
K 659 K1-22 DO YOU USE OR REFER TO BANDPASS DISTORTION	0	0	0	0	0	0
K 660 K1-23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION	0	0	0	0	0	0
K 661 K1-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	0	0	0	0	0	0
K 662 K1-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS	0	0	0	0	0	0
K 663 K1-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS	0	0	0	0	0	0
K 664 K1-27 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	0	0	0	0	0	0
K 665 K1-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	0	0	0	0	0	0
K 666 K2-01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	0	0	0	0	0	0
K 667 K2-02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0
K 668 K2-03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0
K 669 K2-04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0
K 670 K2-05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0
K 671 K2-06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0
K 672 K2-07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0
K 673 K2-08 DO YOU MOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0
K 674 K2-09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	0	0	0	0	0	0
K 675 K2-10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	0	0	0	0	0	0

**TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING**

DR-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
K 676 K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	0	0	0	0	0	0
K 677 K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	0	0	0	0	0	0
K 678 K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	0	0	0	0	0	0
K 679 K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	0	0	0	0	0	0
K 680 K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	0	0	0	0	0	0
K 681 K2-16 DO YOU PERFORM TASKS ON LIMITERS	0	0	0	0	0	0
K 682 K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS	0	0	0	0	0	0
K 683 K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	0	0	0	0	0	0
K 684 K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	0	0	0	0	0	0
K 685 K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS	0	0	0	0	0	0
K 686 K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	0	0	0	0	0	0
K 687 K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	0	0	0	0	0	0
K 688 K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	0	0	0	0	0	0
K 689 K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	0	0	0	0	0	0
K 690 K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	0	0	0	0	0	0
K 691 K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM	0	0	0	0	0	0
K 692 K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD	0	0	0	0	0	0
K 693 K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	0	0	0	0	0	0
K 694 K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	0	0	0	0	0	0
L 695 L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATED TO LOGIC FUNCTIONS	3	3	0	0	6	0
L 696 L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	0	0	0	0	0	0
L 697 L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	0	0	0	0	0	0
L 698 L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	0	0	0	0	0	0
L 699 L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	0	0	0	0	0	0
L 700 L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	0	0	0	0	0	0
L 701 L1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	0	0	0	0	0	0
L 702 L1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR LOGIC SYMBOLS WITH STATE INDICATORS	0	0	0	0	0	0
L 703 L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	0	0	0	0	0	0
L 704 L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	0	0	0	0	0	0
L 705 L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	0	0	0	0	0	0
L 706 L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	0	0	0	0	0	0

PCT MBR'S RESPONDING \*YES\* BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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	DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
L 707 L2-01 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES	RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC CIRCUITS	0	0	0	0	0	0
L 708 L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS	DOING LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DTCL) CIRCUITS	0	0	0	0	0	0
L 709 L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DTCL) CIRCUITS	CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CMY) CIRCUITS	0	0	0	0	0	0
L 710 L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CMY) CIRCUITS	DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	0	0	0	0	0	0
L 711 L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	MEASURE INPUTS OR OUTPUTS OF LOGIC GATES	0	0	0	0	0	0
L 712 L2-05 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	0	0	0	0	0	0
L 713 L2-06 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	0	0	0	0	0	0
L 714 L2-07 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DTCL) CIRCUIT GATES	USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DTCL) CIRCUIT GATES	0	0	0	0	0	0
L 715 L2-08 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CMY) CIRCUITS	USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CMY) CIRCUITS	0	0	0	0	0	0
L 716 L2-09 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	0	0	0	0	0	0
L 717 L2-10 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	1	2	0	6	0	0
L 718 L2-11 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	0	0	0	0	0	0
L 719 L2-12 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	0	0	0	0	0	0
L 720 L2-13 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	0	0	0	0	0	0
L 721 L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	0	0	0	0	0	0
L 722 L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	0	0	0	0	0	0
L 723 L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	0	0	0	0	0	0
L 724 L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	0	0	0	0	0	0
L 725 L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	0	0	0	0	0	0
L 726 L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES	USE OR REFER TO FLIP-FLOP TRUTH TABLES	0	0	0	0	0	0
L 727 L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	0	0	0	0	0	0
L 728 L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	0	0	0	0	0	0
L 729 L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS	MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS	0	0	0	0	0	0
L 730 L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	0	0	0	0	0	0
L 731 L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS	TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS	0	0	0	0	0	0
L 732 L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR LOGIC SYMBOLS	CONSTRUCT TRUTH TABLES FOR LOGIC SYMBOLS	0	0	0	0	0	0

PCT MBR'S RESPONDING \*YES\* BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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	DY-TSK	SPC	SPC	SPC	SPC	SPC	SPC
	DY-TSK	026	027	028	029	030	031
L 733 L3-01 DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB		3	3	0	8	3	0
L 734 L3-02 DO YOU USE OR REFER TO UP-COUNTERS		0	0	0	0	0	0
L 735 L3-03 DO YOU USE OR REFER TO DOWN-COUNTERS		0	0	0	0	0	0
L 736 L3-04 DO YOU USE OR REFER TO SERIAL COUNTERS		1	2	0	8	0	0
L 737 L3-05 DO YOU USE OR REFER TO PARALLEL COUNTERS		0	0	0	0	0	0
L 738 L3-06 DO YOU USE OR REFER TO RING COUNTERS		0	0	0	0	0	0
L 739 L3-07 DO YOU USE OR REFER TO DECADE COUNTERS		0	0	0	0	0	0
L 740 L3-08 DO YOU USE OR REFER TO COUNT DETECT CIRCUITS		1	2	0	0	3	0
L 741 L3-09 DO YOU USE OR REFER TO DOWN CLOCKS		0	0	0	0	0	0
L 742 L3-10 DO YOU USE OR REFER TO UP CLOCKS		0	0	0	0	0	0
L 743 L3-11 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS		0	0	0	0	0	0
L 744 L3-12 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS		0	0	0	0	0	0
L 745 L3-13 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS		0	0	0	0	0	0
L 746 L3-14 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS		0	0	0	0	0	0
L 747 L3-15 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER		0	0	0	0	0	0
L 748 L3-16 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS		0	0	0	0	0	0
L 749 L3-17 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS		3	3	0	8	3	0
L 750 L3-18 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS		0	0	0	0	0	0
L 751 L3-19 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS		0	0	0	0	0	0
L 752 L3-20 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTERS		0	0	0	0	0	0
L 753 L3-21 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS		4	3	9	8	3	17
L 754 L3-22 DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS		0	0	0	0	0	0
L 755 L3-23 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES		0	0	0	0	0	0
L 756 L3-24 DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT		0	0	0	0	0	0
M 757 M1-01 DO YOU WORK WITH SMOOTH WAVE GENERATORS		3	3	0	0	6	0
M 758 M1-02 DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS		1	2	0	0	3	0
M 759 M1-03 DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK		9	9	0	6	0	0
M 760 M1-04 DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK		1	2	0	0	3	0

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

## DY-TSK

		SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
M 761	M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS	1	2	0	0	3	0
M 762	M1-06 DO YOU USE OR REFER TO RISE TIME	1	1	2	0	3	0
M 763	M1-07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME	6	7	0	0	3	0
M 764	M1-08 DO YOU USE OR REFER TO SWEEP TIME	6	2	27	0	3	33
M 765	M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH	3	2	9	0	3	0
M 766	M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH	1	2	0	0	3	0
M 767	M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH	1	2	0	0	3	0
M 768	M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH	1	2	0	0	3	0
M 769	M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	1	0	9	0	0	17
N 770	M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	1	0	9	0	0	17
M 771	M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL GENERATORS	1	0	9	0	0	17
M 772	M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	1	0	9	0	0	17
M 773	M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	1	0	9	0	0	17
N 774	M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS	0	0	0	0	0	0
M 775	M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPKIE	0	0	0	0	0	0
M 776	M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MHZ	0	0	0	0	0	0
N 777	M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MHZ	0	0	0	0	0	0
M 778	M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	1	0	9	0	0	17
M 779	M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR GENERATORS	59	59	64	42	57	67
M 780	M3-02 DO YOU INSPECT MOTORS	59	57	73	42	54	67
N 781	M3-03 DO YOU CLEAN OR LUBRICATE MOTORS	46	45	55	33	40	33
M 782	M3-04 DO YOU OPERATE MOTORS	55	53	64	25	54	50
H 783	M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	58	55	73	42	54	67
H 784	M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS	19	19	18	8	9	0
H 785	M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	59	57	73	33	57	67
M 786	M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	25	24	27	25	21	0
H 787	M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS	9	7	18	8	3	0
M 788	M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES	13	12	18	8	6	0
M 789	M3-11 DO YOU PERFORM ANY TASKS ON ROTORS	9	7	19	8	6	0
M 790	M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES	22	22	18	17	11	0
H 791	M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	12	12	9	8	3	0
M 792	M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS	10	9	18	17	3	0
M 793	M3-15 DO YOU PERFORM ANY TASKS ON SOLE PIECES	7	9	0	3	0	0

PCT MBR'S RESPONDING "YES" BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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DY-TSK	SPC					
	026	027	028	029	030	031
M 794 M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	7	7	9	8	0	0
M 795 M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	14	14	18	8	0	0
M 796 M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	13	14	9	0	3	0
M 797 M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	33	34	27	17	37	0
M 798 M3-20 DO YOU WORK WITH INDUCTION MOTORS	19	19	18	17	14	17
M 799 M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS	12	12	9	6	14	0
M 800 M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	38	36	45	17	34	33
M 801 M3-23 DO YOU INSPECT GENERATORS	3	3	0	0	3	0
M 802 M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	3	3	0	0	3	0
M 803 M3-25 DO YOU OPERATE GENERATORS	4	3	9	0	6	0
M 804 M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	1	2	0	0	3	0
M 805 M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	1	2	0	0	3	0
M 806 M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS	3	2	9	0	3	0
M 807 M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	1	2	0	0	3	0
N 808 N1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	62	62	64	75	63	67
N 809 N1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	7	9	0	8	9	0
N 810 N1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	12	14	0	17	14	0
N 811 N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS	9	10	0	8	11	0
N 812 N1-05 DO YOU READ METER SCALES	74	74	73	83	77	67
N 813 N1-06 DO YOU EXTEND THE RANGE OF AMMETERS	29	31	18	33	26	0
N 814 N1-07 DO YOU ZERO OHMMETERS	75	76	73	83	80	67
N 815 N1-08 DO YOU ZERO AMMETERS	42	43	36	33	43	17
N 816 N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS	41	40	45	42	37	33
N 817 N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)	28	24	45	8	31	17
N 818 N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	0	0	0	0	0	0
N 819 N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	0	0
N 820 N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	0	0
N 821 N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	0	0
N 822 N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	0	0
N 823 N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	0	0
N 824 N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	0	0	0	0	0	0

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC						
0 853	01-09 DO YOU PERFORM TASKS ON SSB	AUDIO AMPLIFIERS	0	0	0	0	0	0	0
0 854	01-10 DO YOU PERFORM TASKS ON SSB	BALANCED MODULATORS	0	0	0	0	0	0	0
0 855	01-11 DO YOU PERFORM TASKS ON SSB	CARRIER OSCILLATORS	0	0	0	0	0	0	0
0 856	01-12 DO YOU PERFORM TASKS ON SSB	LC FILTERS	0	0	0	0	0	0	0
0 857	01-13 DO YOU PERFORM TASKS ON SSB	CRYSTAL FILTERS	0	0	0	0	0	0	0
0 858	01-14 DO YOU PERFORM TASKS ON SSB	MECHANICAL FILTERS	0	0	0	0	0	0	0
0 859	01-15 DO YOU PERFORM TASKS ON SSB	OSCILLATORS	0	0	0	0	0	0	0
0 860	01-16 DO YOU PERFORM TASKS ON SSB	MIXERS	0	0	0	0	0	0	0
0 861	01-17 DO YOU PERFORM TASKS ON SSB	DRIVERS	0	0	0	0	0	0	0
0 862	01-18 DO YOU PERFORM TASKS ON SSB	POWER AMPLIFIERS	0	0	0	0	0	0	0
0 863	01-19 DO YOU PERFORM TASKS ON SSB	RF AMPLIFIERS	0	0	0	0	0	0	0
0 864	01-20 DO YOU PERFORM TASKS ON SSB	FREQUENCY CONVERTERS	0	0	0	0	0	0	0
0 865	01-21 DO YOU PERFORM TASKS ON SSB	IF AMPLIFIERS	0	0	0	0	0	0	0
0 866	01-22 DO YOU PERFORM TASKS ON SSB	DEMODULATORS	0	0	0	0	0	0	0
0 867	01-23 DO YOU PERFORM TASKS ON SSB	DON'T REMEMBER WHICH SSB SYSTEM STAGES	0	0	0	0	0	0	0
0 868	01-24 DO YOU USE OR REFER TO	SELECTIVE FADING	0	0	0	0	0	0	0
0 869	01-25 DO YOU USE OR REFER TO	PEAK POWER	0	0	0	0	0	0	0
0 870	01-26 DO YOU USE OR REFER TO	FREQUENCY STABILITY	0	0	0	0	0	0	0
0 871	01-27 DO YOU USE OR REFER TO	RESPONSE CURVES FOR	0	0	0	0	0	0	0
0 872	01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB	TRANSMITTERS	0	0	0	0	0	0	0
0 873	01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB	TRANSMITTER SCHEMATIC DIAGRAMS	0	0	0	0	0	0	0
0 874	01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB	RECEIVER SCHEMATIC DIAGRAMS	0	0	0	0	0	0	0
0 875	02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR	PRESNT JOB	0	0	0	0	0	0	0
0 876	02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS	0	0	0	0	0	0	0	0
0 877	02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS	0	0	0	0	0	0	0	0
0 878	02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS	0	0	0	0	0	0	0	0
0 879	02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	0	0	0	0	0	0	0	0
0 880	02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	COMPONENTS	0	0	0	0	0	0	0
0 881	02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS	0	0	0	0	0	0	0	0
0 882	02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS	SYSTEMS	0	0	0	0	0	0	0
0 883	02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM)	0	0	0	0	0	0	0	0
0 884	02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM)	0	0	0	0	0	0	0	0
0 885	02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM)	SYSTEMS	0	0	0	0	0	0	0
0 886	02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS	0	0	0	0	0	0	0	0
0 887	02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS	0	0	0	0	0	0	0	0
0 888	02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF	MODULATION SYSTEM	0	0	0	0	0	0	0

PCT MARS RESPONDING \*YES\* BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

QY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
0 889 02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	0	0	0	0	0	0
0 890 02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKEs AND CHARGING DIODEs	0	0	0	0	0	0
0 891 02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	0	0	0	0	0	0
0 892 02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	0	0	0	0	0	0
0 893 02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS	0	0	0	0	0	0
0 894 02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	0	0	0	0	0	0
0 895 02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	0	0	0	0	0	0
0 896 02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	0	0	0	0	0	0
0 897 02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	0	0	0	0	0	0
0 898 02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF ANALYZERS	0	0	0	0	0	0
0 899 02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	0	0	0	0	0	0
0 900 02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	0	0	0	0	0	0
0 901 02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	0	0	0	0	0	0
0 902 02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM STAGES DON*T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	0	0	0	0	0	0
0 903 02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	0	0	0	0	0	0
0 904 02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	0	0	0	0	0	0
C 905 02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)	0	0	0	0	0	0
C 906 02-32 DO YOU USE OR REFER TO PULSE SHAPE	0	0	0	0	0	0
C 907 02-33 DO YOU USE OR REFER TO PEAK POWER	0	0	0	0	0	0
C 908 02-34 DO YOU USE OR REFER TO AVERAGE POWER	0	0	0	0	0	0
C 909 02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	0	0	0	0	0	0
C 910 02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	0	0	0	0	0	0
0 911 02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR MAX POWER DUE TO MODULATION	0	0	0	0	0	0
C 912 02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION	0	0	0	0	0	0
C 913 02-39 DO YOU USE SCHEMATIC DIAGRAMS OR CURRENT PATHS THROUGH PULSE MODULATION	0	0	0	0	0	0
C 914 CLO-10 DO YOU DRAW ANTENNA SCHEMATIC DIAGRAMS	0	0	0	0	0	0
C 915 CLO-11 DO YOU USE SPECIFIC ANTENNAS	0	0	0	0	0	0





PCT MRS RESPONDING •YES• BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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DY-TSK	SPC					
	SPC	SPC	SPC	SPC	SPC	SPC
P 971 P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS	0.26	0.27	0.28	0.29	0.30	0.31
P 972 P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING	0	0	0	0	0	0
P 973 P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0	0
P 974 P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (Z0) OF TRANSMISSION LINES	0	0	0	0	0	0
P 975 P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (Z0) OF TRANSMISSION LINES	0	0	0	0	0	0
P 976 P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES	0	0	0	0	0	0
P 977 P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES	0	0	0	0	0	0
P 978 P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES	0	0	0	0	0	0
P 979 P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES	0	0	0	0	0	0
P 980 P1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT AS THE FREQUENCY INCREASES AND THE PHYSICAL LENGTH OF TRANSMISSION LINES REMAIN CONSTANT, THE ELECTRICAL LENGTH INCREASES	0	0	0	0	0	0
P 981 P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES	0	0	0	0	0	0
P 982 P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES	0	0	0	0	0	0
P 983 P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING	0	0	0	0	0	0
P 984 P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB	0	0	0	0	0	0
P 985 P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0
P 986 P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0
P 987 P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0
P 988 P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0
P 989 P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0
P 990 P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0
P 991 P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0
P 992 P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES	0	0	0	0	0	0
P 993 P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS	0	0	0	0	0	0
P 994 P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS	0	0	0	0	0	0
P 995 P2-12 DO YOU REMOVE OR INSTALL E BENDS	0	0	0	0	0	0
P 996 P2-13 DO YOU REMOVE OR INSTALL H BENDS	0	0	0	0	0	0
P 997 P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS	0	0	0	0	0	0
P 998 P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS	0	0	0	0	0	0
P 999 P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS	0	0	0	0	0	0
P1000 P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS	0	0	0	0	0	0
P1001 P2-18 DO YOU REMOVE OR INSTALL BI_DIRECTIONAL COUPLERS	0	0	0	0	0	0
P1002 P2-19 DO YOU USE OR REFER TO A WALL OF WAVEGUIDES	0	0	0	0	0	0

PCT MARS RESPONDING \*YES\* BY SELECTED GROUPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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	DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
P1003 P2-20 DO YOU USE OR REFER TO $\rightarrow B$ WALL OF WAVEGUIDES	0	0	0	0	0	0	0
P1004 P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES	0	0	0	0	0	0	0
P1005 P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES	0	0	0	0	0	0	0
P1006 P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES	0	0	0	0	0	0	0
P1007 P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS	0	0	0	0	0	0	0
P1008 P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS	0	0	0	0	0	0	0
P1009 P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS	0	0	0	0	0	0	0
P1010 P2-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST WAVEGUIDES ARE MADE WITH A $\rightarrow B$ WALL SIZE OF .7 WAVELENGTHS OF THE OPERATING FREQUENCY	0	0	0	0	0	0	0
P1011 P2-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST $\rightarrow A$ WALLS RANGE FROM .2 TO .5 WAVELENGTHS IN SIZE, WITH .35 USED AS AN AVERAGE	0	0	0	0	0	0	0
P1012 P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF	0	0	0	0	0	0	0
P1013 P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION	0	0	0	0	0	0	0
P1014 P2-31 DO YOU USE THE RIGHT HAND RULE TO DETERMINE THE DIRECTION OF PROPAGATION, DIRECTION OF $\rightarrow E$ FIELD, OR DIRECTION OF $\rightarrow H$ FIELD IN WAVEGUIDES	0	0	0	0	0	0	0
P1015 P2-32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK $\rightarrow E$ OR $\rightarrow H$ LINES IN WAVEGUIDES	0	0	0	0	0	0	0
P1016 P2-33 DO YOU MEASURE THE TIME PHASE OF $\rightarrow E$ OR $\rightarrow H$ LINES IN WAVEGUIDES	0	0	0	0	0	0	0
P1017 P2-34 DO YOU USE OR REFER TO THE SPACE QUADRATURE OF $\rightarrow E$ OR $\rightarrow H$ LINES IN WAVEGUIDES	0	0	0	0	0	0	0
P1018 P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0
P1019 P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0
P1020 P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0
P1021 P2-38 ARE APERTURES (WINDOOS OR IRISSES) USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0
P1022 P2-39 DON'T REMEMBER THE KIND OF ENERGY COUPLING USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0
P1023 P2-40 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0	0	0
P1024 DO YOU DETERMINE POSITIONING OF LIQUID OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0	0	0

PCT MBRS RESPONDING "YES" BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

	DO-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
P1025 P2-42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0	0	0
P1026 P2-43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0
P1027 P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0
P1028 P2-45 ARE DON'T REMEMBER THE KIND OF JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0
P1029 P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING	0	0	0	0	0	0	0
P1030 P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING	0	0	0	0	0	0	0
P1031 P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING	0	0	0	0	0	0	0
P1032 P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING	0	0	0	0	0	0	0
P1033 P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS	0	0	0	0	0	0	0
P1034 P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR MAGNETRONS	0	0	0	0	0	0	0
P1035 P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE	0	0	0	0	0	0	0
P1036 P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME	0	0	0	0	0	0	0
P1037 P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE	0	0	0	0	0	0	0
P1038 P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY	0	0	0	0	0	0	0
P1039 P3-Q6 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION	0	0	0	0	0	0	0
P1040 P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING	0	0	0	0	0	0	0
P1041 P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS	0	0	0	0	0	0	0
P1042 P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS	0	0	0	0	0	0	0
P1043 P3-10 DO YOU WORK WITH REFLEX KLYSTRONS	0	0	0	0	0	0	0
P1044 P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)	0	0	0	0	0	0	0
P1045 P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1046 P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1047 P3-14 DO YOU WORK WITH MAGNETRONS	0	0	0	0	0	0	0
P1048 P3-15 DO YOU INSPECT KLYSTRONS OR TWT	0	0	0	0	0	0	0
P1049 P3-16 DO YOU CLEAN KLYSTRONS OR TWT	0	0	0	0	0	0	0
P1050 P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY	0	0	0	0	0	0	0
P1051 P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY	0	0	0	0	0	0	0
P1052 P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT	0	0	0	0	0	0	0
P1053 P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT	0	0	0	0	0	0	0
P1054 P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT	0	0	0	0	0	0	0
P1055 P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS	0	0	0	0	0	0	0
P1056 P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1057 P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1058 P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0

PCT HRS RESPONDING \*YES\* BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT NUMBERS PERFORMING

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	DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
P1059 P3-2b DO YOU TUNE PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1060 P3-27 DO YOU PERFORM OPERATIONAL CHECKS OF PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1061 P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1062 P3-29 DO YOU REMOVE OR REPLACE COMPLETE PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1063 P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS	0	0	0	0	0	0	0
P1064 P3-31 DO YOU INSPECT MAGNETRONS	0	0	0	0	0	0	0
P1065 P3-32 DO YOU CLEAN MAGNETRONS	0	0	0	0	0	0	0
P1066 P3-33 DO YOU ADJUST MAGNETRONS	0	0	0	0	0	0	0
P1067 P3-34 DO YOU TUNE MAGNETRONS	0	0	0	0	0	0	0
P1068 P3-35 DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS	0	0	0	0	0	0	0
P1069 P3-36 DO YOU TROUBLESHOOT MAGNETRONS	0	0	0	0	0	0	0
P1070 P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	0	0	0	0	0	0	0
P1071 P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	0	0	0	0	0	0	0
P1072 P3-39 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS, COLLECTOR PLATES	0	0	0	0	0	0	0
P1073 P3-40 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS, CATCHER CAVITIES	0	0	0	0	0	0	0
P1074 P3-41 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS, CATCHER GRIDS	0	0	0	0	0	0	0
P1075 P3-42 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS, FEEDBACK LOOPS	0	0	0	0	0	0	0
P1076 P3-43 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS, BUNCHER CAVITIES	0	0	0	0	0	0	0
P1077 P3-44 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS, BUNCHER GRIDS	0	0	0	0	0	0	0
P1078 P3-45 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS, CATHODES	0	0	0	0	0	0	0
P1079 P3-46 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON REPELLER (REFLECTOR) PLATES	0	0	0	0	0	0	0
P1080 P3-47 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON CONTROL GRIDS	0	0	0	0	0	0	0
P1081 P3-48 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON REPELLER (REFLECTOR) PLATES	0	0	0	0	0	0	0
P1082 P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF PEFFLEX KLYSTRON GRIDS	0	0	0	0	0	0	0
P1083 P3-50 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF PEFFLEX KLYSTRON GRID CAVITY GAPS	0	0	0	0	0	0	0
P1084 P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF PEFFLEX KLYSTRON RESONANT CAVITIES	0	0	0	0	0	0	0
P1085 P3-52 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF PEFFLEX KLYSTRON MAGNET-COUPLING LOOPS	0	0	0	0	0	0	0
P1086 P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF PEFFLEX KLYSTRON FILAMENT	0	0	0	0	0	0	0
P1087 P3-54 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF PEFFLEX KLYSTRON PLATES	0	0	0	0	0	0	0

	DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
P1088	REFLEX KLYSTRON OUTPUT LEADS	0	0	0	0	0	0
P1089	P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	0	0	0	0	0	0
P1090	P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	0	0	0	0	0	0
P1091	P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	0	0	0	0	0	0
P1092	P3-59 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES	0	0	0	0	0	0
P1093	P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELIXES	0	0	0	0	0	0
P1094	P3-61 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES COLLECTORS	0	0	0	0	0	0
P1095	P3-62 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	0	0	0	0	0	0
P1096	P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS	0	0	0	0	0	0
P1097	P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	0	0	0	0	0	0
P1098	P3-65 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	0	0	0	0	0	0
P1099	P3-66 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	0	0	0	0	0	0
P1100	P3-67 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES	0	0	0	0	0	0
P1101	P3-68 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS	0	0	0	0	0	0
P1102	P3-69 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIASED BATTERIES	0	0	0	0	0	0
P1103	P3-70 DO YOU PERFORM TASKS ON ANODES	0	0	0	0	0	0
P1104	P3-71 DO YOU PERFORM TASKS ON ANODE COOLING PINS	0	0	0	0	0	0
P1105	P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS	0	0	0	0	0	0
P1106	P3-73 DO YOU PERFORM TASKS ON HEATER LEADS	0	0	0	0	0	0
P1107	P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES	0	0	0	0	0	0
P1108	P3-75 DO YOU PERFORM TASKS ON CATHODES	0	0	0	0	0	0
P1109	P3-76 DO YOU PERFORM TASKS ON MAGNETS	0	0	0	0	0	0
Q1110	Q1-01 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	0	0	0	0	0	0
Q1111	Q1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	1	2	0	0	0	0
Q1112	Q1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	0	0	0	0	0	0
Q1113	Q1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	0	0	0	0	0	0
Q1114	Q1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	0	0	0	0	0	0
Q1115	Q1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	0	0	0	0	0	0

PCT MEMBERS RESPONDING \*YES\* BY SELECTED GROUPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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	DY-TASK	SPC	SPC	SPC	SPC	SPC
Q1116 Q1-77 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES HAVE PASSED	0 0 0 0 0 0	026	027	028	029	030 031
Q1117 Q2-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB	4 3 9 8 0 0					
Q1118 Q2-02 DO YOU USE OR REFER TO DELAY LINES	1 0 9 0 0 0					
Q1119 Q2-03 DO YOU USE OR REFER TO MAGNETIC CORES	3 2 9 0 0 0					
Q1120 Q2-04 DO YOU USE OR REFER TO MAGNETIC DRUMS	1 2 0 0 0 0					
Q1121 Q2-05 DO YOU USE OR REFER TO MAGNETIC TAPES	1 2 0 0 0 0					
Q1122 Q2-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OF MEMORY SYSTEMS	3 3 0 8 0 0					
Q1123 Q2-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS	0 0 0 0 0 0					
Q1124 Q2-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS	0 0 0 0 0 0					
Q1125 Q2-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES	0 0 0 0 0 0					
Q1126 Q3-01 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D) CONVERTERS, OR BINARY-TO-DECIMAL READOUT CONVERTERS	0 0 0 0 0 0					
Q1127 Q3-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT VOLTAGES	0 0 0 0 0 0					
Q1128 Q3-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS IS DETERMINED BY ADDING THE DENOMINATORS OF THE RESISTORS	0 0 0 0 0 0					
Q1129 Q3-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS	0 0 0 0 0 0					
Q1130 Q3-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0 0 0 0 0 0					
Q1131 Q3-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0 0 0 0 0 0					
Q1132 Q3-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0 0 0 0 0 0					
Q1133 Q3-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0 0 0 0 0 0					
Q1134 Q3-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0 0 0 0 0 0					
Q1135 Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS	0 0 0 0 0 0					
Q1136 Q3-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS	0 0 0 0 0 0					
Q1137 Q3-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS	0 0 0 0 0 0					
Q1138 Q3-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS	0 0 0 0 0 0					
Q1139 Q3-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS	0 0 0 0 0 0					

## PCT MBR'S RESPONDING "YES" BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-TSK	SPC					
	SPC	SPC	SPC	SPC	SPC	SPC
R1140 R1-01 DO YOU WORK WITH PHANTASTRON CIRCUITRY IN YOUR PRESENT JOB	0	0	0	0	0	0
R1141 R2-01 IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS	1	2	0	0	3	0
R1142 R2-02 DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS	1	2	0	0	3	0
R1143 R2-03 DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS	0	0	0	0	0	0
R1144 R3-01 IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES	19	17	27	8	17	0
R1145 R3-02 DO YOU FABRICATE COAXIAL CABLES	10	10	9	0	14	0
S1146 S1-01 IN YOUR PRESENT JOB DO YOU PERFORM ANY TASKS ON VISUAL READOUT SYSTEMS	10	10	9	8	3	0
S1147 S1-02 DO YOU PERFORM ANY TASKS ON NIXIE LIGHTS OR NIXIE LIGHT DECODER SYSTEMS	1	2	0	0	0	0
S1148 S1-03 DO YOU ANALYZE NIXIE LIGHT DECODER SYSTEMS USING BOOLEAN ALGEBRA	0	0	0	0	0	0
S1149 S2-01 DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB	9	7	16	0	11	0
S1150 S3-01 IN YOUR PRESENT JOB DO YOU WORK WITH CHOPPER CIRCUITS	1	0	0	0	0	0
S1151 S3-02 DO YOU MEASURE EXCITATION FREQUENCY RELATIONSHIPS	0	0	0	0	0	0
S1152 S3-03 DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS	0	0	0	0	0	0
S1153 S3-04 DO YOU USE OR REFER TO EXCITATION FREQUENCIES	0	0	0	0	0	0
S1154 S3-05 DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS	0	0	0	0	0	0
S1155 S3-06 DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	1	0	9	0	0	0
S1156 S3-07 DO YOU USE DETECTORS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	3	0	18	0	0	0
S1157 S3-08 DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	3	0	18	0	0	0
S1158 S3-09 DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	1	0	9	0	0	0
T1159 T1-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS	0	0	0	0	0	0
T1160 T1-02 DO YOU INSPECT INFRARED SYSTEMS	0	0	0	0	0	0
T1161 T1-03 DO YOU CLEAN INFRARED SYSTEMS	0	0	0	0	0	0
T1162 T1-04 DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS	0	0	0	0	0	0
T1163 T1-05 DO YOU OPERATE INFRARED SYSTEMS	0	0	0	0	0	0
T1164 T1-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS	0	0	0	0	0	0
T1165 T1-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS	0	0	0	0	0	0
T1166 T1-08 DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS	0	0	0	0	0	0
T1167 T1-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF INFRARED SYSTEMS	0	0	0	0	0	0
T1168 T1-10 DO YOU REMOVE OR REPLACE INFRARED SYSTEM COMPONENT PARTS	0	0	0	0	0	0

PCT HRS RESPONDING \*YES\* BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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		DY-TSK	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031
T1169	T1-11	DO YOU USE OR REFER TO FAR REGION	0	0	0	0	0	0
T1170	T1-12	DO YOU USE OR REFER TO INTERMEDIATE REGION	0	0	0	0	0	0
T1171	T1-13	DO YOU USE OR REFER TO NEAR REGION	0	0	0	0	0	0
T1172	T1-14	DO YOU USE OR REFER TO MICRON	0	0	0	0	0	0
T1173	T1-15	DO YOU USE OR REFER TO GRAY BODIES	0	0	0	0	0	0
T1174	T1-16	DO YOU USE OR REFER TO BLACK BODIES	0	0	0	0	0	0
T1175	T1-17	DO YOU USE OR REFER TO ABSORPTION	0	0	0	0	0	0
T1176	T1-18	DO YOU USE OR REFER TO SCATTERING	0	0	0	0	0	0
T1177	T1-19	DO YOU USE OR REFER TO ABSOLUTE ZERO	0	0	0	0	0	0
T1178	T1-20	DO YOU PERFORM TASKS ON BLITZ	0	0	0	0	0	0
T1179	T1-21	DO YOU PERFORM TASKS ON TARGET BUTTONS	0	0	0	0	0	0
T1180	T1-22	DO YOU PERFORM TASKS ON EJECTOR LENSES	0	0	0	0	0	0
T1181	T1-23	DO YOU PERFORM TASKS ON OCULAR LENSES	0	0	0	0	0	0
T1182	T1-24	DO YOU PERFORM TASKS ON CORRECTION LENSES	0	0	0	0	0	0
T1183	T1-25	DO YOU PERFORM TASKS ON FILTERS	3	2	3	3	3	3
T1184	T1-26	DO YOU PERFORM TASKS ON SPHERICAL MIRRORS	0	0	0	0	0	0
T1185	T1-27	DO YOU PERFORM TASKS ON PLANE MIRRORS	1	0	0	0	0	0
T1186	T2-01	DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEPATING WITH LASERS	0	0	0	0	0	0
T1187	T2-02	DO YOU INSPECT LASER SYSTEMS	0	0	0	0	0	0
T1188	T2-03	DO YOU CLEAN LASER SYSTEMS	0	0	0	0	0	0
T1189	T2-04	DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0
T1190	T2-05	DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0
T1191	T2-06	DO YOU TROUBLESHOOT WIRE CONNECTIONS OF LASER SYSTEMS	0	0	0	0	0	0
T1192	T2-07	DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	0	0
T1193	T2-08	DO YOU TROUBLESHOOT COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0
T1194	T2-09	DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	0	0
T1195	T2-10	DO YOU REMOVE OR REPLACE COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0
T1196	T2-11	DO YOU USE OR REFER TO ANGSTROMS (A)	0	0	0	0	0	0
T1197	T2-12	DO YOU USE OR REFER TO ELECTRON ENERGY LEVELS	0	0	0	0	0	0
T1198	T2-13	DO YOU USE OR REFER TO GROUND STATE	0	0	0	0	0	0
T1199	T2-14	DO YOU USE OR REFER TO EXCITED STATE	0	0	0	0	0	0
T1200	T2-15	DO YOU USE OR REFER TO PACKET OF RADIATION	0	0	0	0	0	0
T1201	T2-16	DO YOU USE OR REFER TO PHOTONS	0	0	0	0	0	0
T1202	T2-17	DO YOU USE OR REFER TO SPONTANEOUS EMISSION	0	0	0	0	0	0
T1203	T2-18	DO YOU USE OR REFER TO STIMULATED EMISSION	0	0	0	0	0	0
T1204	T2-19	DO YOU USE OR REFER TO COHERENCE OR INCOHERENCE	0	0	0	0	0	0
T1205	T2-20	DO YOU USE OR REFER TO INVERSION LEVEL	0	0	0	0	0	0
T1206	T2-21	DO YOU USE OR REFER TO MONOCHROMATIC	0	0	0	0	0	0
T1207	T2-22	DO YOU WORK WITH ACTIVE MATERIALS	0	0	0	0	0	0
T1208	T2-23	DO YOU WORK WITH PULSED SOURCES	0	0	0	0	0	0
T1209	T2-24	DO YOU WORK WITH FULL SILVERED MIRRORS	1	2	0	0	0	0

PCT MBR'S RESPONDING \*YES\* BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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	DY-TSK											
	SPC 026	SPC 027	SPC 028	SPC 029	SPC 030	SPC 031						
MIRRORS							1	2	0	0	3	0
T1210 T2-25 DO YOU WORK WITH HALF SILVERED (92% REFLECTIVE)												
T1211 T2-26 DO YOU WORK WITH HELICAL FLASHTUBES							0	0	0	0	0	0
T1212 T2-27 DO YOU WORK WITH RUBY							0	0	0	0	0	0
T1213 T2-28 DO YOU WORK WITH HELIUM-NEON							0	0	0	0	0	0
T1214 T2-29 DO YOU WORK WITH HELIUM-XENON							0	0	0	0	0	0
T1215 T2-30 DO YOU WORK WITH XENON							0	0	0	0	0	0
T1216 T2-31 DO YOU WORK WITH CESIUM-HELIUM							0	0	0	0	0	0
T1217 T2-32 DO YOU WORK WITH ARGON							0	0	0	0	0	0
T1218 T2-33 DO YOU WORK WITH NEODYMIUM IN GLASS							0	0	0	0	0	0
T1219 T2-34 DO YOU WORK WITH GALLIUM ARSENIDE							0	0	0	0	0	0
T1220 T3-01 IN YOUR PRESENT JOB DO YOU WORK WITH DISPLAY TUBES, SUCH AS DIRECT VEN STORAG (DVST) OR MULTIPLE MODE STORAGE TUBES (MMST)							0	0	0	0	0	0
T1221 T3-02 DO YOU INSPECT DVST OR MMST							0	0	0	0	0	0
T1222 T3-03 DO YOU CLEAN DVST OR MMST							0	0	0	0	0	0
T1223 T3-04 DO YOU ADJUST OR CALIBRATE DVST OR MMST							0	0	0	0	0	0
T1224 T3-05 DO YOU OPERATE SYSTEMS THAT CONTAIN DVST OR MMST							0	0	0	0	0	0
T1225 T3-06 DO YOU TROUBLESHOOT DVST OR MMST							0	0	0	0	0	0
CIRCUITS												
T1226 T3-07 DO YOU REMOVE OR REPLACE DVST OR MMST TUBES FROM MAJOR ASSEMBLIES OR UNITS							0	0	0	0	0	0
T1227 T3-08 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF DVST							0	0	0	0	0	0
T1228 T3-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF MMST							0	0	0	0	0	0
T1229 T3-10 DO YOU PERFORM TASKS ON FLOOD GUNS							0	0	0	0	0	0
T1230 T3-11 DO YOU PERFORM TASKS ON WRITE GUNS							0	0	0	0	0	0
T1231 T3-12 DO YOU PERFORM TASKS ON ATTACK GUNS							0	0	0	0	0	0
T1232 T3-13 DO YOU PERFORM TASKS ON ERASE GUNS							0	0	0	0	0	0
T1233 T3-14 DO YOU PERFORM TASKS ON STORAGE GRIDS							0	0	0	0	0	0
T1234 U1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY PROGRAMMING TASKS							0	0	0	0	0	0
U1235 U1-02 DO YOU USE OR REFER TO DECIMAL SYSTEMS							0	0	0	0	0	0
U1236 U1-03 DO YOU USE OR REFER TO PROGRAMS							0	0	0	0	0	0
U1237 U1-04 DO YOU USE OR REFER TO HEXIDECIMAL SYSTEMS							0	0	0	0	0	0
U1238 U1-05 DO YOU USE OR REFER TO 8-4-2-1 SYSTEMS							0	0	0	0	0	0
U1239 U1-06 DO YOU USE OR REFER TO FOUR SYSTEMS							0	0	0	0	0	0
U1240 U1-07 DO YOU USE OR REFER TO BINARY SYSTEMS							0	0	0	0	0	0
U1241 U1-08 DO YOU USE OR REFER TO TIME-SHARING							0	0	0	0	0	0
U1242 U1-09 DO YOU USE OR REFER TO DATA WORDS							0	0	0	0	0	0
U1243 U1-10 DO YOU USE OR REFER TO ADDRESS WORDS							0	0	0	0	0	0
U1244 U1-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS							0	0	0	0	0	0
U1245 U1-12 DO YOU USE OR REFER TO STEERING/INFORMATION							0	0	0	0	0	0
U1246 U1-13 DO YOU USE OR REFER TO INFORMATION WORDS							0	0	0	0	0	0
U1247 U1-14 DO YOU PERFORM TASKS ON SINGLE LEVEL PROGRAMMING							0	0	0	0	0	0
U1248 U1-15 DO YOU PERFORM TASKS ON MULTI-LEVEL PROGRAMMING							0	0	0	0	0	0

## PCT WORKS RESPONDING 'YES' BY SELECTED GROUPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

		DY-TSK			SPC			SPC			SPC		
		026	027	028	029	030	031	026	027	028	029	030	031
U1249	U1-16	DO YOU PERFORM TASKS ON INPUT DEVICES	0	0	0	0	0	0	0	0	0	0	0
U1250	U1-17	DO YOU PERFORM TASKS ON STORAGE DEVICES	0	0	0	0	0	0	0	0	0	0	0
U1251	U1-18	DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS	0	0	0	0	0	0	0	0	0	0	0
U1252	U1-19	DO YOU PERFORM TASKS ON CONTROL SECTIONS	0	0	0	0	0	0	0	0	0	0	0
U1253	U1-20	DO YOU PERFORM TASKS ON OUTPUT DEVICES	0	0	0	0	0	0	0	0	0	0	0
U1254	U1-21	DO YOU PERFORM TASKS ON POWER SUPPLIES	0	0	0	0	0	0	0	0	0	0	0
U1255	U2-01	DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND ATTENUATION	0	0	0	0	0	0	0	0	0	0	0
U1256	U2-02	DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN DECIBELS	0	0	0	0	0	0	0	0	0	0	0
U1257	U2-03	DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS	0	0	0	0	0	0	0	0	0	0	0
U1258	U2-04	DUMMY TASK TO IDENTIFY INCIDENTS WHO PERFORMED NO TASKS	3	3	0	0	3	0	0	0	0	0	0

AD-A048 694

AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9  
AEROSPACE PHOTOGRAPHIC SYSTEMS SPECIALIST AFSC 40451.(U)  
NOV 77 T J O'CONNOR, E J WEBER

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# **SUPPLEMENTARY**

## **INFORMATION**

*Corrected*

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19. KEY WORDS (Continue on reverse side if necessary and identify by block number) <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Electronic principles</td> <td style="width: 50%;">Electronics</td> </tr> <tr> <td>Basic electronics</td> <td>Air Force training</td> </tr> <tr> <td>Avionics</td> <td>Teaching methods</td> </tr> <tr> <td>Electronic equipment</td> <td>Training</td> </tr> <tr> <td>Electronic technicians</td> <td></td> </tr> </table>			Electronic principles	Electronics	Basic electronics	Air Force training	Avionics	Teaching methods	Electronic equipment	Training	Electronic technicians	
Electronic principles	Electronics											
Basic electronics	Air Force training											
Avionics	Teaching methods											
Electronic equipment	Training											
Electronic technicians												
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) <p>This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Aerospace Photographic Systems Specialist (AFSC 40451). The report gives a detailed listing of the technical tasks and knowledge needed to perform the jobs within the specialty or career ladder.</p> <p style="text-align: center;"><i>(Signature)</i></p>												

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This specialty has the following functions:

Inspects, installs, removes, troubleshoots, repairs, overhauls, calibrates, and modifies electronic, radar recording, video tape recording, and optical aerospace photographic systems and associated electronic analyzers and tests equipment.



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